THE CULTIVATOR.

THIRD — To Improve the Soil and the Mind. — SERIES.

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Preparing Nursery Seeds.

The late "proceedings of the Michigan Nurserymen and Fruit Growers' Association," as published in the Michigan Farmer, contain some valuable suggestions on the preparation and management of the seeds of fruit trees, which although not new to experienced nurserymen, may be useful to many others. The following remarks were made in substance, on the washing of *apple seeds from the pomace*, which may furnish information in reply to the numerous inquiries made lately on this subject.

E. Moody thought the best and most rapid mode was by the use of a machine so constructed that the pomace being placed in a hopper, passed to a concave bed through which a stream of water poured, and where the pomace was stirred, and afterwards made to pass over a sieve. The seed immediately drop through and are collected below. It was stated the machine will clean from five to eight bushels per day. A more minute description of this machine would be desirable. A prominent difficulty in washing the seeds from pomace, consists in the time required to break up the lumps made by the hard pressure given in making cider. We have seen a machine which accomplished this with rapidity, which was made quite similar in nature to the spiked bed of a common thrashing machine, with the difference that the spikes were of wood and larger and coarser. With the addition of water, the pomace was quickly separated, and the seeds dropped through a coarse sieve, as they always sink in water.

It is well known that apple seeds are quickly spoiled if allowed to remain in the heaps of pomace till it heats or ferments. *Large quantities of apple seeds, handsomely washed and cleaned, are sold every year, which are nearly worthless from this cause.* The "proceedings" alluded to, contain the following rule for detecting injured seed, furnished by J. T. Blois:—When the covering or cuticle of the seed will slip or peal off easily, the seed has been spoiled; when it will bear scraping with a knife without cleaving from the kernel, and the kernel is of a pure white, it is good. This rule, which is obviously a correct one, if generally attended to, would save from a vast amount of imposition in the autumn, when apple seeds are sold.

PEACH STONES.—It was stated that peach pits, placed on the surface of the earth, and exposed to freezing and thawing, would be rendered worthless, if the frost is extracted from them by the air and sun—but if thawed in contact with or covered by earth, they would remain uninjured. This, we believe, accords with the experience of nurserymen generally. Mixed with sand or earth the pits will grow; thrown out in unprotected or uncovered piles, they fail, even if the kernels are carefully taken out in spring by cracking.

J. C. Holmes stated that his practice was to cover peach stones, spread out in a bed, with about three inches of earth in autumn. A portion come up the first year, and when two inches high, are taken up and set in rows—which are thus even and full. The remainder of the pits come up the second year, when the process is repeated—one bed lasting for two years' planting. This practice is pursued by some of our best nurserymen; but as some check in growth and much labor attend their removal, we have found it more convenient to rake over the bed early, and select such as are sprouting, which being set in rows, come up evenly and grow with vigor. It often happens that a small portion only will grow the first year, and the great mass of them the second; hence where peach stones are abundant, the best way is to let the few go which sprout the first spring; not disturbing the bed till the second, when all the rest readily open without the labor of cracking.

CHERRY STONES.—J. C. Holmes, after stating the well known fact that cherry pits must be buried while yet fresh, said that he planted them at once, spreading tan bark over them if the sea-

son was dry. The following spring they come up through the tan-bark and do much better than if planted in spring. To which we may add, that if cherries are planted in the autumn, with an earth covering merely, a serious difficulty often occurs, in the hard crust formed on the surface, through which the young cherry plants find it sometimes impossible to penetrate. The tan-bark obviates this difficulty—finely pulverized stable manure, and perhaps peat or leaf-mould, would do the same.

Extracts from our Corespondence, &c.

Fertile Subsoils—Deep Plowing.

An Amateur Farmer of Randolph, Vt., says:—"I have recently become possessed of about 30 acres of land, some of which has been cultivated over 40 years, and never been plowed probably more than 6 inches deep, generally about 4 inches. It is what I suppose would be called a very loose black loam soil, very deep, having been examined and tested 6 or 8 feet, and found to produce, when spread upon the surface, much better than the surface soil. I wish to inquire if it would probably be good policy to plow it 10 to 12 inches deep? If so, what is the best way to do it? or what is the best plow for doing it? After being turned up, what process of manuring it should be adopted?"

A large common plow, with a double team, (4 horses or 4 oxen,) will enable our correspondent to invert the soil to a depth of 8 or 9 inches—and if, as appears, the subsoil is richer than the surface, the land would be improved in every way. A double mould-board plow, (or Michigan subsoil,) with a triple team, will enable him to go down easily one foot or more. Manure is to be applied as to any other soil—that is, spread, pulverized with the harrow, and turned in—the more equally it is diffused through every part of the worked soil, through all portions of which the roots of plants are to penetrate, the better.

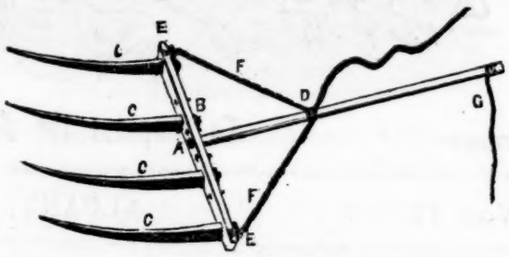
If our correspondent has any doubts of the success of this deep plowing, he can try an acre or two first by way of experiment.

Pitching Hay by Horse Power.

Mr. P. P. PECKHAM of Sylvania, Bradford Co., Pa., writes us as follows:—"In describing L. F. Allen's barn in Annual Register for 1856, page 179, it is very properly suggested that something is desirable for unloading hay, &c. The plan proposed is so far in advance of the hand method, that I could like it, if I thought it the best that might be adopted. Allow me to propose the Horse Pitchfork, as described in a back vol. of the Cultivator. I copied from the Cultivator, and made the first fork of this kind known in this part of the State, about five years ago. Now I think it would be safe to say that about 200 are in use, and liked well. Some say they would not take $100 for a fork if they could not get another. I am aware that an elevator would carry the hay on to a mow, but would be more in the way, and could not be made to carry the hay to any desired locality as the fork would; besides, with an elevator, all the hay would have to be pitched by hand on the elevator from the load."

The Horse Pitchfork alluded to above, was figured in the Cultivator for 1848, p. 122, by a "Practical Farmer" of Bucks county, Pa., who thus describes it:

A, is the head, 28 inches long, and 2½ inches square, of white oak, or some other strong wood. B, is the handle, 5½ feet long, mortised into the head, with an iron clasp of band or hoop iron to fit tight over the head, and to extend six inches up the handle, secured by two good rivets through the handle, to increase its strength—*c, c, c, c,* the prongs of the fork, made of good steel, and of the right temper, ½ an inch wide at the head, and drawn out tapering to the point. They



HORSE PITCHFORK.

are to be 20 inches long, 8 inches apart in the head, with a burr to screw them up tight, and a rivet on each side of the middle prongs, to keep the head from splitting. E, E, staples, riveted over the end prongs, to which the rope, F, F, is to be attached—the rope to be drawn together 3 feet from the head in the form of an A, and then the single rope to extend from that over a tackle-block, which is hung to a rafter at the peak of the roof of the barn, and 2 feet over the side of the mow, and thence to the bottom of the door-post, where another tackle-block is attached, under which the rope passes. G, is a small rope, attached to the end of the handle, by which the fork is kept level as it ascends over the mow. As it approaches the place where the hay is to be left, the rope should be slackened in the hand, when the hay will tilt the fork so that it will discharge its load immediately. The fork, when loaded, is raised by a horse, which is attached to a swingle-tree to which the rope is fastened, near the lower pulley or tackle-block above-mentioned. When the hay is discharged from the fork, back up the horse and be ready for another fork-full. The fork is drawn back by the small rope. In this way forks-full can be picked up nearly as quick as they can be by hand.

A farmer that has a large quantity of hay to pitch, will more than get pay for the trouble and expense of a fork of this kind in a single year. With the assistance of a boy to lead the horse to the fork, a man can with ease pitch off 6 tons of hay per hour, and pitch it from 15 to 20 feet high. On a trial of speed, I have pitched a ton 15 feet high in 4 minutes. The fork does not cost over $5 without the blocks and ropes, and I think they can be had all together, ready for putting in operation, of Garret Brown, Newtown, Bucks Co., Pa., for $7.

Uses of Salt in Agriculture

Extract of a letter from a western correspondent:—"Of the *uses* of salt in agriculture, we find few who can speak very confidently or from personal knowledge. It seems highly desirable to know for what purposes it might be profitably used, for if all the advantages which have been claimed as results of its application to the soil and to crops should prove, upon well-conducted trials, to be procurable by its use, it would be an important agent in husbandry. We have planned a few experiments to be made in the course of next season, the results of which will be contributed as one help to a better knowledge of the uses of salt. If others will join in making a few experiments, quite a considerable contribution to the common stock of accurate and reliable and useful knowledge may be made, in the course of a year or two, through your columns.

"Although the testimony given some years ago in the pages of the *Cultivator*, seems decisive that salt will not kill wire-worms, still it may be found quite an important aid towards getting rid of some of the minor pests of the garden, or orchard, or field. Sprin-

kled around plum, apple, and other trees about which insects are apt to burrow in the ground, it may help to destroy them, or at least to lessen their number. Some carefully conducted experiments would contribute to determining whether salt can be made to yield such aid to orchardists, gardeners and farmers. To induce some of the readers of this paper to plan, prepare for, carry through, and afterwards report such experiments, has been one main object of this communication."

Buckwheat—Its Culture, &c.

MESSRS. EDITORS—Buckwheat, or beechwheat—its grain is like the mast of beech—is considered to be a native of Asia. It is cultivated in China and other countries of the East for bread and cakes. It is also used for the same purpose in various parts of Europe, and also as rice or gruel in Germany and Poland. It is yearly becoming more and more cultivated in this country, yet it does not yet receive that attention from farmers which its merits demand. Not only is the seed valuable for food to both man and beast, but the straw, if cut before being killed by frost, is an excellent fodder for cattle and sheep. Sheep seem to prefer it to any other straw. The average yield in this section is from twenty to twenty-five bushels per acre. The last season, SAM'L ALLEN, of the town of Benton in this county, raised one hundred and twenty-seven bushels from one bushel sowing, on about two and a half acres; and JOHN SCOFIELD, of Prattsburg in Steuben county, harvested two hundred bushels on four acres. Mr. Allen counted nearly four hundred kernels on one stalk in his field. In this climate it should be sown from the 20th of June to the 4th of July. I have known pretty good crops which were sown as late as the 10th of July. I have used from half a bushel to one bushel of seed to the acre, and now think that half a bushel is amply sufficient. S. B. BUCKLEY. *West Dresden, Yates Co., N. Y.*

Smut in Oats.

EDITORS CO. GENT.—During the past season, as is perhaps generally known, there was much complaint of the smut in oats, especially in southern Indiana, My object in writing this is to make the following inquiries, which, if you or some of your correspondents can answer, may prove beneficial to many subscribers.

1. What is the cause of smut in oats, and is there any preventive known?

2. Will seed oats taken from an infected crop, produce good heavy oats, or will the disease continue to increase until it destroys the whole crop?

So general was this disease spread over this portion of country, and so unexpectedly too, was it to our farmers, that no little surprise has been manifested. The crop grew luxuriantly, and promised to be as fine as we ever had, (and it was heavy strawed,) but after earing, the destructive ravages of the disease above mentioned made itself apparent. In many fields one-fourth, and in some one-third of the ears were entirely worthless. It is different from what is called "blasted oats," the grain having the proper form, but being filled with a black, dusty substance, which is offensive to smell, and renders it unfit for food, especially for the horse, when cut with the straw cutter. The only way the grain can be fed with advantage is to thresh it, and fan it thoroughly which will cleanse it of the smut. The value of this crop for feed, and its heretofore certain paying yield, makes me quite anxious to gain all the information I can, and any which I may be able to obtain through your valuable paper will be gratefully received by A PLOWMAN. *Canton, Ind.*

Smut in oats is common in some countries, but we have never witnessed it as a serious evil. Like the smut of wheat, which is more generally known, it is a parasitic fungus growing in the grain, and totally disorganizing it, and destroying its substance. Doubtless the same *preventive* remedy as is commonly used for the seed of wheat, would prove equally efficacious with oats, namely, washing the grain thoroughly in water, or still better in brine, (or giving the last washing in brine,) and then rolling it well in dry, powdered, water-slaked, fresh lime, some hours before sowing. If the crop is now sown on clean fresh land, the probability is that little smut will be seen in the future crop. This experiment, tried with the wheat crop, has diminished the number of smutty heads several hundred times; that is to say, where one head of smut was found after the prepared seed, hundreds could be found where unwashed seed had been used from a previous smutty crop. For further information on the subject, our correspondent is referred to an article on the 121st page of our last number.

Management of Hard-pan Soils.

I see in the 8th November no., page 301, of the Co. Gentleman, an inquiry relative to hard-pan. In my humble opinion there is no better way for farmers to derive great advantages from agricultural papers, than to ask and answer questions, and that frequently and freely; but our friend from Harwinton, Conn, wants you or some "scientific correspondent" to answer. There appears to be some difficulty here: however well many others might, with myself, answer practically, we cannot do it scientifically. Perhaps we have never seen a crucible. We know nothing of chemistry connected with agriculture. However, as I have introduced the subject, I will try to answer it—not what the hard-pan spoken of is composed of, but the best method to decompose it, and make it pervious to air and water. If the gentleman means that the hard-pan is one and one-half to two feet below the surface soil, as is the case in many places, he cannot do much with it, nor will it do much harm; but if he means that the first one and one-half to two feet is hard-pan, like frozen ground, then it is a hard job, and such as I have never seen any attempt made to till. I have seen and improved land, having below the top soil of four, five, six or seven inches, as many or more inches of hard-pan below. Wherever the plow will reach the hard-pan, the deeper it is broke up the better; and the only proper time to do it is late in the fall, after the earth has become well saturated with the fall rains. Although I am opposed to wet plowing in the summer, I dont care how wet, late in the fall, when not to be worked or sowed in the fall. I have found that five good horses—three in one plow and two in the other—the first turning a furrow of 17 inches wide and 10 to 11 deep—with the second plow, either a subsoil or narrow two-horse, go as deep as possible. I have used in preference, the two-horse plow, for the reason it exposes more of the subsoil to the action of the frost. What thousands and thousands of dollars would Jack Frost be worth to many farmers, if they would only give him something to do. He works cheap—he asks nothing. All the men in the world, cannot make such a machine. Just let him look at it this hard stiff subsoil and hard-pan. Throw it down on the surface, and he will tear and crumble and mollify it, and make it pervious to water and air. It will then become friendly, and mix up with the adjoining, and so deepen the soil and improve it. I dont know of one farm in Frederick County, but would pay three or four times what it would cost to subsoil it properly. It not only gives a greater range for the supply of food for plants, but in case of great rains it will sink down, and not lay on the surface to scald the grain and bake and harden the earth. It is surely well known to every man of obser-

vation and experience that to raise large crops there must be a deep rich soil, and where ever there is a tenacious stiff clay near the surface, that cant be done. Much depends on the nature of the soil, whether the deep fall plowing will benefit so much or not. If the land is composed of a large proportion of sand and alluvial clay, being pervious to water, it may be plowed deep at any time. But where there is a large proportion of stiff clay, and above all if there be hard-pan, by all means turn it to Jack Frost very deep, any time from the first of November to new-years. WM. TODD. *Utica Mills, Md.*

Value of Gas Tar as a Farm Paint.

MESSRS. LUTHER TUCKER & SON—I have seen several notices recently, of "the value of gas tar," as a "farm paint." I have used it for some time past, and consider it a most valuable article. It is certainly an excellent preservative of timber exposed to the weather, and can be used with great advantage, applied to carts, wagons, plows, gates, and, indeed, all the "iron work" about the farm, which needs paint of any kind, to protect it from rust, and give it a neat appearance, being a good substitute for oil and lead paint. Its cheapness is a strong recommendation, and I doubt not it will ere long be freely used by the farmers, wherever it can be conveniently obtained. Its disagreeable smell is not a material objection, as it loses most of it, in a few days after it is applied, but it "dries slowly," which is the greatest objection I find to its use. Can you, or any of your correspondents, tell me how *that* objection may be removed? I have been told to stir a little "fresh lime" into it, before using, which remedy I *have tried* without success. JS. A. HUMPHREYS. *Versailles, Ky.*

Inquiries and Suggestions about Root Culture.

In the Co. Gent of 28th Feb., there is a communication headed "Corn and Ruta Bagas together," signed J. F. I wish just to inquire of the writer when and how the bagas are sown—when the corn is planted, or after, and if with a machine or by hand.

It is usually conceded that we cannot plow too deep for root crops. Allow me to inquire if the roots of a baga extend any deeper than the roots of corn? My idea (it may be erroneous,) is to diffuse your manure through the first eight or nine inches of the surface of the earth, rather than taking the same amount of fertilizing matter and mixing with twice that depth.

In the raising carrots, I have come to the conclusion after repeated trials, that the best course is to allow them to remain in the drill quite close together, say eight or ten to the foot, rather than to thin them out more than this, and get larger roots. The great advantage in this course, I deem to be that: A medium-sized carrot is possibly more nutritious, and much more easily fed out to stock, as it need not be cut at all; and I have no doubt but the yield is fully equal where they are not thinned as where the opposite course is taken.

An inquiry I wish to make is this: As I have frequently noticed the great bulk of the carrot is in the first six inches of its growth, and when the ground is plowed very deep, and the roots extend down into the earth very much, that the bottom part does not amount to much—i. e., is very slim—why take so much pains to get the manure down deep in the earth? Why not rather thoroughly manure and pulverize the earth to the depth of eight or nine inches? It seems as though the manure would have more effect on the crop than if buried twice this depth. WM. J. PETTEE.

Products of Butter Dairies.

MESSRS. EDITORS—Your favorable notice of my Farm Report, in the Country Gentleman of Nov. 15, places it in a position where comment and comparison may be freely indulged, let us hope to the advantage of the great cause in which so many valuable citizens are engaged. Especially that portion of it comprising the dairy statement, has been made the subject of several communications of value in some respects. But as they are not quite so clear in others I will proceed to a brief examination of them.

[Our correspondent, whose article was written before he saw the Co. Gent. of 6th March, proceeds to review the statements of Mr. Shepard and Mr. Arms, which we trust he will excuse us for omitting, inasmuch as Mr. Freeman, in the no. alluded to, went over the same ground.]

For the information of Mr. Arms, I will state that my cows were native, more or less crossed with Durham—none of them more than one-fourth Durham—aged from 3 to 8 years—inventoried on the first of April of that year, at $42.50 cents per head. I would farther add that I have a full blood Ayrshire heifer that weighed, when 18 months old, 900 lbs.—dropped a calf before 2 years old, and in 110 days gave 1,100 quarts of milk, from the cream of which 102½ lbs. of butter were made. The milk was carefully measured and butter accurately weighed. The only extra feed was 3 bushels of bran and meal equally mixed, and 10 bushels of carrots, before the grass season.

John Wing of Washington, received a premium at the Dutchess County Fair for 1855, for the best dairy cow, she having produced 459 lbs. of butter in one year. Now if we could multiply this by Mr Arm's figures, especially the latter price, it would produce an amount of money seldom if ever heard of from one cow for the same length of time, butter alone considered. We will only value it at 25 cents per lb, and it amounts to $114 75. It is to be hoped that all of the particulars in this case will some day find place in the Country Gentleman.

Mr. Arms "ventures the assertion that there is not a cow in the United States that will make 100 lbs. of pork in 7 months from the skim milk *alone*." It is not claimed that the milk from one cow, fed to *one* pig, will *alone* make him dress just 100 lbs; nor is it believed that corn *alone* would produce that result. But a judicious system of feeding should be observed to insure the best results.

Sour milk forms an appropriate food for swine, during the first months of their existence, and taking the advantages arising from its use, in aiding their growth at first, and alternating with more substantial food afterwards while fattening, it is conceded by our most observing men that it produces 100 lbs. of pork for each cow. It is true that this is not the result of carefully conducted experiment, but is the best that can be done until Mr. Arms, or some other gentleman, will undertake to prove the case by experimen—if Mr. A. has not already done so, which we should infer from his stating, "I will not include pork or calves, of which I have kept an exact account." If he has kept an "exact account" of the "pork" made from his 8 cows, will he be so good as to inform us how much the sour milk of each will make. GEO. W. COFFIN. *Amenia, Duchess Co., March 3d*, 1856.

Gas Lime for Agricultural Purposes.

The idea has been entertained in some quarters, that the refuse lime of gas works possesses considerable manurial value. In New-Haven it is sold at the gas works at an advance of one cent per bushel above the original price of fresh lime. I know of no experiments that prove its value, and can only judge of its worth from the results of a chemical examination. The supposed improvement which lime undergoes by being used as a gas purifier, has been referred to the absorption of ammonia. At my request, Mr. E. K. Twining, of the Yale Scientific School, has made some determinations of the quantity of ammonia in stone gas limes. The results are as follows. In each instance duplicate analyses were made:

	No. 1.	No. 2.	No. 3.
	per cent.	*per cent.*	*per cent.*
1st estimation,.....	0.790	0.039	0.035
2d "	0.800	0.038	0.035

No. 1 gives the amount of ammonia in the perfectly fresh gas lime from the New-Haven Gas Works. This lime possesses a brown color and powerful odor of gas-tar and of ammonia. Nevertheless the odor is no guide as to the amount of ammonia. Lime No. 2, is from the Waterbury (Conn) Gas Works. It was a week old at the time of collection, and had no odor of ammonia. No. 3, is from the same gas works, and had been exposed to the weather for one year or thereabouts, and is perfectly white. It is obvious that the ammonia which is contained in gas lime is of small account at first, and, after a few days' exposure to the air, is almost totally lost. We can not expect therefore to trace any good effects to this ingredient of gas lime.

It is obvious that gas lime, containing as it does when fresh, considerable caustic lime, cannot retain more ammonia than would adhere to any similar moist and porous mass, that had been exposed to an atmosphere of ammoniacal gas. Doubtless no gas lime can be found, that even in the freshest condition, contains one per cent. of ammonia. As to the other ingredients of gas lime, there are several per cents. (in one analysis by Prof. Johnston 14 per cent.,) of soluble sulphite and hyposulphite of lime. What the effect of these bodies on vegetation may be, is not known, but probably 24 hours could not elapse after the lime is spread upon the soil, before the whole of these bodies would be converted into sulphate of lime or gypsum. Besides these bodies, carbonate of lime is a large ingredient, 50—70 per cent. I am of opinion that a bushel of common oyster-shell or stone lime, mixed with a bushel of gypsum is fully equal to two bushels of gas-lime in final fertilizing effect. Possibly the solubility of the hyposulphite of lime may make the gas-lime more active. There is, however, another ingredient that probably may have important uses, and that is the gas tar of which 5 or 6 per cent. are present. The powerful odor of this substance would probably keep away most insects from the crops to which gas lime may be applied. This odor is at first heightened by that coming from the oxydation of a $\frac{1}{4}$—$\frac{1}{2}$ per cent. of sulphuret of calcium which the fresh lime contains. The latter, however, lasts but a short time; the odor of the gas-tar is more durable. An acquaintance who attempted a trial of gas lime last year, found it destroyed the seed (potatoes, I think,) when put in contact therewith.

I conclude that while gas lime is not to be thrown away, but is to be used wherever it can be obtained, no undue notions of its extraordinary fertilizing effects are to be entertained, and especially no great benefit must be looked for on account of its ammonia. I leave to practical men to decide from their own trials, whether it be worth one cent per bushel more than fresh lime.

If the gas-lime has a *peculiar* manurial value, this it would seem must depend upon the soluble compounds of lime, and as these are rapidly oxydized into sulphate of lime on exposure to the air, the fresher the gas-lime is applied to the soil, the greater should be the benefit it yields. S. W. Johnson. *Yale Analytical Laboratory.*

Machines for Cleaning Wheat, &c., for Seed.

Several machines constructed for the purpose above named, were in the collection of agricultural implements at the late Exhibition at Paris. Whether for grinding into flour, or for use as seed, the French seem to be at greater pains in cleaning wheat and all the cereals, than the British or Americans. In this neglect of the latter parties to obtain the very best portions of their grain for seed, we have certainly something of the nature of an anomaly or inconsistency, for the same parties are very far from being neglectful in the selection and pairing of the domesticated animals. Now the proposition is not only plausible, reasonable, and in accordance with analogy, that good, sound and perfect seeds will produce better plants than seeds less perfect, but it is also abundantly supported by the experience of cultivators both with garden and field crops. Gardeners, especially market gardeners in the neighborhood of large cities, are at great pains to procure *the very best quality* of seeds. From such facts and considerations it seems evident and unquestionable that where grain is to be employed as seed, it is of no small importance that it should be cleaned, not only of all noxious seeds, but also of all imperfect, small, weak or damaged kernels.

In the columns of this paper the importance of care in the growth and preservation of the choicest seeds for planting or sowing, has been frequently insisted upon, and various suggestions have been made as to modes of securing the most perfect specimens. As hand picking is practicable to only a very limited extent in the case of wheat, rye and other cereals, as it is in the case of Indian corn, resort to machinery seems the only admissible method of preparing the best possible quality of seed for *ordinary* purposes. For *extraordinary* purposes a few heads or a small parcel of some of the best grains might be supplied by hand-picking or separate culture, as experiments are tried with the small quantities of rare seeds which are issued annually from the Patent Office.

It seems to us that if some enterprising individual in a community of enterprising farmers were to own a machine for the effectual separation of the smaller and weaker or damaged kernels of wheat, it might be used enough for his own purposes and for those of his neighbors, to remunerate him abundantly for wear and tear, and a large interest on the cost of the article. In the accounts which have been published of the articles sent to the late Paris Exhibition, one machine is described which appears to have been admirably adapted, not only for the most thorough cleaning of grain for seed, but also for separating the plumpest grain from the sample. As a machine for dressing grain to be used as seed, it was generally accounted superior to any other. It is described as consisting of a cylinder over six feet in length. This cylinder is divided

into four parts having a different form of holes in each. The first has six rows of oblong holes cut lengthways, with three rows of round holes intervening. Through these pass most of the seeds of grasses and other small seeds, dust, &c. The second and third compartments are perforated with round holes—those of the third being rather larger than those of the second. These two compartments separate inferior grain, and the larger seeds of grasses, &c., which have not previously passed through the holes. The fourth compartment is perforated with oblong holes, cut lengthways to the diameter of the cylinder, and finishes the work of freeing the grain from all imperfect or undersized kernels, which is then delivered at one end of the machine. At the other end is a hopper with a slide and spout by which the grain is conveyed to the cylinder. The cylinder turns round slowly, moved by wheels and pinions as in a common fanning-mill. There are boxes beneath each compartment to receive the refuse and inferior grain which is separated. By a machine of the size of that exhibited, 120 bushels can be cleaned in a day; by one of a larger size 32 bushels can be overtaken in an hour. The cylinder may be made of sheet-iron or zinc. The price of the machine varies from about $22 to $28.

There were several other machines for the same purpose on exhibition. Nearly the whole were upon the principle of revolving cylinders. They are used, in France, to prepare grain for market, enhancing the price, by cleaning it of all extraneous matter; for cleansing grain for seed; and, lastly, for cleaning grain before grinding in flour-mills.

Thick and Thin Sowing.

MESSRS. EDITORS—Having noticed in the Country Gentleman, an article or two on "Thick and Thin Sowing," and "Proper Quantity of Seed to an Acre," I can by my own experience confirm the suggestions and statements of others. From observation of thrifty growing crops, I have long been satisfied and convinced that a less quantity of seed will do; for on inspection of stout growing grain, it is very evident that the number of plants growing on a given space of ground is far short of the number of seeds sown. Very often I have examined winter wheat before harvest, by counting the number of roots or plants growing on a square rod, and weighing an equal number of grains, have ascertained that where one and a half to two bushels seed had been sown, only from six to eight quarts per acre were actually growing at harvest time; and while living in western New-York, have repeatedly sown only half a bushel wheat per acre, on part of a field, and have always found that if the plants were fewer, they always spread out more and filled better than on other parts of the field, where they were crowded by over-seeding.

In April, 1854, I sowed a field of 20 acres to oats, except a piece of about an acre, on which I sowed 2 bushels peas and half a bushel oats mixed. This piece lay on one side of the field, and was of the same average character as to quality or surface. I finished sowing in the afternoon, and expected that the teams would finish the whole field by sundown; but having too much ground to go over, the pea ground was not touched. The next night it rained, and continued wet for three days. Six days after sowing, I directed a hand to get the harrow, and if the peas were not much sprouted, to finish it, which he did by harrowing it over once; and on going to the ground afterwards myself, found that the peas by so doing were mostly spoilt for growing. They had sprouted from two to four inches. The oats, however, grew well, and for some time before harvest they could be plainly distinguished from the road by a darker color and taller growth. At harvest time, and in hauling to barn, and from the comparative number of sheaves and yield, the piece was estimated by every one, to yield at least ten bushels more per acre, than the balance of the field, on which I averaged two bushels seed per acre, all sowed on the same day. The piece, or pea ground, contained by measurement after harvest, 180 rods, and no peas of any consequence grew on it. The whole field averaged 56 bushels per acre. WM. PLOCKER. *Metomen, Wis.*

Corn Culture and Billings' Planter.

MESSRS. EDITORS—Reading in the Country Gentleman a year or two ago an account of a piece of premium corn raised by your correspondent the Hon. J. W. COLBURN of Vermont, in which he stated his corn was planted with a machine which dropped the seed and a fertilizer also at the same time, and wishing to procure a machine that would deposit guano or some other fertilizer along with the seed, I wrote Mr. C., inquiring with regard to his machine. He answered me, saying the one he used dropped the corn satisfactorily, but was imperfect or nearly useless, in dropping the fertilizer. I afterwards pursued the inquiry, till last spring I heard of Billings' seed planter and fertilizer; and procuring one, I used it in planting several acres of corn and beans. Its operations were entirely satisfactory, dropping the seed and fertilizer, covering and rolling the same, all with perfect accuracy, as fast as a horse could walk. It is light, and at the same time substantially made. It is easily drawn by a horse and guided by a man, and is capable, with ground in good order, of planting 6 to 10 acres per day. It may easily be regulated to drop seed at almost any required distance, and answers a good purpose for drilling corn for fodder. It is also capable of dropping corn and beans in alternate hills, and a fertilizer with either or both at pleasure. I cannot but regard this truly labor-saving machine as a good one, and one much sought for by farmers at the present day, when so many fertilizers are used, such as guano, superphosphates, &c.

I believe it is now generally conceded by all our best corn-growing farmers, that green-sward, well turned over in fall or spring, is our best ground for corn. Hence the propriety of using a small amount of some active manure to assist the plant in the earlier stages of its growth. To apply any fertilizer by hand labor, is slow, tedious, and expensive too. Indeed to plant any considerable quantity of ground either with or without a fertilizer by hand, dropping and covering, seems to be out of the question, as our planting must be done at just the right time, and that time is always when everything needs to be done and every body is busy. And hence the inquiries, Messrs. Editors, that have appeared in your valuable papers and other agricultural papers, for a machine to do the above work. The inventor of this machine I believe has succeeded in giving us one as near perfect at we have a right to expect. I will add that they are manufactured in South Deerfield, Mass., by E. C. FAIRCHILD & Co., and are known as Billings' Improved Planter and Fertilizer. A. C. J.

Cure for Rot in Sheep.

MESSRS. EDITORS—In your last Co. Gent., I observed Mr. AMBLER of Virginia, wished information that will assist him in curing or getting rid of the rot in sheep. And you also expressed a desire to hear from any of your readers in answer to the above. Having had some experience in curing this disease, I give the following as a sure remedy: Make a strong decoction of rue, adding to it what salt it will dissolve, and when cool, it is ready for use. The remedy is a simple one, but I doubt simple as it is, whether a more success-ful one can be given. CHAS READ. *Pittstown, N. Y.*

Pears in Old Orchards.

I have an old apple orchard, wherein the trees have to a great extent died out. In these vacant spots I propose to set pears; placing those on pear stocks 20 feet apart, (the original distance of the apple trees,) and those on the quince between.

Now I would like to know whether pears, thus set in this old orchard, will thrive or not, the ground having been well improved by manuring and cultivation?

Which are the 10 hardiest varieties of pears for this northern latitude—5 for pear stocks and 5 for quince? S. S. Bailey. *Canton, N. Y., Feb.*, 1856.

A pear orchard will not do so well set in an old apple orchard, as on fresh land. If, however, the soil is strong, and naturally adapted to the successful growth of the pear, they may possibly succeed well, especially if the roots of the old apple trees have decayed thoroughly in the soil.

The following pears will probably succeed well at Canton. *On pear stocks*—Bartlett, Seckel, Flemish Beauty, Virgalieu, Sheldon, Winter Nelis. *On quince*—Louise Bonne of Jersey, Tyson, Angouleme Winkfield, Osband's Summer, Glout Morceau.

Protection of Seed Corn.

Messrs. Editors—After reading G. E. H.'s experience, in preparing seed corn, in the Country Gentleman of Feb. 21, and fearing that some farmers may take his *experience* for *advice*, and lose their seed, by soaking, tarring, plastering, or otherwise injuring their seed, I will offer some of my experience.

After trying experiments of every description that I could read, or think of, in preparing seed to forward the growth, prevent the destruction, or increase the quantity of corn, for eight years, in which I have cultivated from twenty to fifty acres of corn per year—I have come to the conclusion that the most *sure* way to have the seed "*come up*," and do well, is first to manure and prepare the ground well—plant *good seed, clean as it came from the cob.* This never fails with me; all variations from this *have* failed under different circumstances.

To prevent the seed from being destroyed by hens. The pig, with a full belly, will never root around; the hen, with a full crop, will not scratch the ground Therefore—when my hens are disposed to *scratch*, I call them up to the barn, and give them as much corn as they will eat, for which they always sing to me a merry tune, and lay a whole hat full of eggs.

To prevent crows from pulling corn. I scatter corn in the field broad-cast, which they feed upon and leave the seed. If I have too much company by my liberality, I soak the corn in strichnia and hot water. Last spring, after scattering half a bushel of corn soaked in this way, I picked up forty-two dead crows, and how many more went off feeling "kind o' sick," I am not able to state.

Wire and grub worms are more difficult customers to deal with—for any poison used for their destruction, is always absorbed by the soil, which is a sure protection to them. I have never found a *sure* remedy for these pests; and can only secure my seed by planting enough for their wants and mine too, and if they get more than their share, I plant new hills a few inches from the old ones thus destroyed, and "thin out," at second hoeing. M. J. P. *Cream Hill, Rutland, Vt.*

☞ The Commissioner of the U. S. Patent Office, will please accept our thanks for several parcels of seeds, recently received, which we shall distribute to those who will make good use of them.

Stabling Milch Cows.

My method of stabling is—in a 30 foot stable, put stanchions for 10 head—the first floor plank running back with 3 inches incline. Then for them to stand on, I put 3 inch plank across to the width of 4 ft. 4 inches back from the bed-piece. The first should be an inch board instead of a plank, 18 or 20 inches wide, the sink to be filled with horse manure or chalf, to keep thier knees from getting sore when getting up and down.

I keep my cows in the stanchions, about 22 hours, letting them out about 2 oclock to drink. I find they require much less food than those that are fed out and are larger too. My cows are as clean as in summer. I find that the milk is of a better quality. It makes better flavored and yellower butter. I find too, they are much safer to calve in the stanchions than any other way; less liable to take cold, and their calves are as safe as though they were loose. It is my practice to feed what calves I raise, and never let them suck the cow, as they learn to feed quicker, and the cow is much more quiet at giving up her calf. A Subscriber. *Brookfield, N. Y.*

Stretches in Sheep.

Messrs. Editors—In the Country Gentleman of the 7th Feb., I notice an article by John J. Craig of Indiana, in relation to a disease among his sheep From his description I conclude it is what is commonly called "stretches." Cases of this disease, are of frequent occurrence in my flock. It is intussusception of the bowels, and unless it can be removed in the first stages of the disease, inflammation ensues, which always proves fatal.

My mode of treatment is as follows: I hold up the hind legs of the sheep as high as may be and still let it rest on its forward feet, during about ten minutes. This generarlly cures, if taken when first attacked Relief is sometimes given by laying the sheep on its back, and pressing suddenly the belly and sides for a few minutes, which may be done without pain to the animal, as at this stage of the disease there is no tenderness. I have also cured them by putting them into a yard alone, and making them run till the blood becomes somewhat heated. During the last two years I have treated in this way, at least twenty cases of this disease, and have not lost a sheep by it. A. Thomas. *Ceresco, Wis.*

Cure for Corns on Horses' Feet.

Messrs. Editors—In one of your late numbers, a correspondent inquires the best cure for corns in horses. I have a very valuable horse, that, from carelessness and inattention, was corned in his 4th year. My blacksmith wished to cut it out, but my own judgment said no. I had his shoes pulled off, took him home and turned him out. This was in May; in October I took him to the same blacksmith, and he declared his hoof to be sound and without blemish. I have seen it tried several times—always with success. I never saw a case where the knife was used that did not materially injure the value of the animal. Burning is one remedy, but I consider it worse than cutting. We all know that an easy shoe will cure corns on our own feet quicker than any other remedy. The two cases are parallel A Subscriber. *Louisville, Ky.*

Butter Making, Shade Trees, &c.

MESSRS. TUCKER & SON—In the Country Gentleman of the 7th Feb., there is an inquiry made by an Old Subscriber, "Why his butter will not come?" He relates the process which he goes through as follows:

"Our milk-maid always saves about two quarts of strippings every time of milking, that is put in the cream crock, with a little buttermilk, at the start."

Saving strippings is right, and the more of the milk you churn the sweeter and better will be the butter. Why the buttermilk is put in the crock, unless it is to make the butter rancid, I cannot conceive, as it certainly will not in the least contribute to bring the butter, nor should the cream be tempered by mixing boiling water with it, as that has a tendency to make it "froth and foam," although this is the usual method of warming cream in cold weather.

To prevent the difficulty of which he complains, I would recommend what I regard as a sovereign remedy. Put the cream in a tin-pail, and put the pail in a boiler which is sufficiently full of hot water to warm the cream to the proper temperature, which should in all cases be tested by the thermometer, where persons have not experience sufficient to enable them to arrive at the proper temperature, which is about 65 degrees for warm weather and 70 degrees cold. I do not know anything about your atmospheric churns, having always used the old fashioned one; large at the bottom and small at the top, with the least taper possible so that the dasher can move all the cream every time it goes up or down, and it should go clear to the bottom and top, so that all is churned at the same time; and no witches can prevent the butter's coming, for old or new subscribers.

Butter with and without Salt.

And I have still another customer on hand on the subject of butter making, who is very unlike the Old Subscriber, Mr. BOISE, who seems to be in search of knowledge without difficulty. In the Country Gentleman of the 14th Feb., he says:

MR. DICKINSON states that "butter does not require salt to preserve it, any more than lard"—that "salt is only necessary to flavor," and that "Liverpool salt must be used." In New England we think best to put a little salt into lard which is designed for summer use, and that ground rock salt is best for butter. If he thinks that butter and lard do not require salt to preserve them through the heat of summer, then why does fat pork? Let him try his pork without salt, and see if it will keep sweet through the heat of summer.

I cannot help what Mr. B thinks in New England. I know a man in New England who put up more than 10,000 ferkins of lard in Indiana without salt, and sent some of it round the Cape to California, as I did myself in 1851, and that too without damage. Do the whalers put salt in their oil when they render it, or does it keep without? There are not many New Englanders but what know that salt in oil, lard, or tallow, would make sluts of candles, spluttering lamps, and surplus lard is used for both, when cheaper, mixed with tallow, and manufactured into oil. I know how to render lard so as to keep without salt, and so do ninety-nine out of every hundred men or women, who have had any experience. All that is necessary is to try lard sufficiently to take out every particle of flesh and water.

I know many good housewives who throw in a small handful of salt in a ferkin of lard when rendering, but never knew so much put in that it could be tasted. I do not know how to keep pork without salting it, and if Mr. Boise does he can get a patent right and make a fortune. And I know how to make butter that will keep without, as well as with salt, by washing every particle of milk out, with soft water, and working it down, solid and firm; then put it in a package and deposit it in some sweet place. And I know how to make tallow, taken from the same cow, keep sweet without salt, but have never learned the art of keeping the fat or lean meat without salting, and when Mr. B. learns how, I will be much obliged for the information.

If Mr. Boise knew much about the manufacturing of butter in this or other countries, he would have known that in England much butter is made without salt, and the most of the Dutch butter formerly was not seasoned until it was put on the table, and then all salted to suit their own taste.

I am well aware that there are but few butter makers who can make first quality of butter, and therefore cannot make butter that will keep without salt, for the reason that it requires patience, skill, and much labor, to get every particle of the milk out, and most certainly buttermilk will not keep without salt in butter, and poorly with. I did not recommend making butter without seasoning it for use or sale. My object was to test a principle, whether the buttermilk could be all washed out without spoiling the grain, *with hard water*. By making and putting down a crock without salting, if there is anything wrong, either in the making, or the food on which the cow feeds, it will develop itself in its true character more clearly than if salted, and every butter-maker should make (that is to say new beginners,) a crock of unseasoned butter occasionally to test his skill, and all the materials from which his butter is extracted, as it is more sensitive than any or all other eatables, manufactured from the vegetable world. If every particle of milk is not got out, it will spoil as soon as lard or tallow will without being rendered, and either, being properly done, does not require salt to preserve, any more than flour does, that is made from dry wheat, which grows on hard water land, which is worth in the New-York market one dollar, or at Mark Lane, two dollars more per barrel at present prices, than any flour manufactured from wheat that grows on soft water land.

The Best Salt for Butter.

I recommended Liverpool salt for seasoning butter. This New England farmer says "ground rock salt is best for butter." In this I may be mistaken, and Mr. Boise right. If so, I am very happy to stand corrected as I am desirous of learning everything pertaining to farming; and if there is any one thing that I dislike more than another, it is a man recommending to others that which he knows nothing about himself. Now what I mean by Liverpool salt, is the rock salt taken from the most extensive mines in the world, in the neighborhood of Northwich in Cheshire, which have been wrought some two hundred years, *a sufficient length of time to be known to young farmers.* The rock salt is taken from the mines; and to purify it, it is dissolved in sea water, from which it is afterwards separated by evaporation and crystalization, ground, and made better, as I think, for seasoning butter. I have used in my business, rock salt from the principal mines of the world, in packing beef and pork in the western states, to wit, the mines of Widitzka in Poland, Catalonia in Spain, Altemonte in Calabria, Loowur in Hungary, and from some unimportant mines in Asia and Africa. I do not regard any so pure and good for butter as the rectified salt which may be taken from other mines, and have never seen the first pound of first quality butter, one year old, seasoned with any other, and I would recommend its use to the lovers of good corned beef, for summer use.

Several years since when I was engaged in making butter on a pretty large scale, a gentleman in New-Orleans, had considerable of my butter, and having got out in June, of eatable butter, he wrote me to send him two firkins of good, without regard to expense, which I did, and made them both on the 4th of July. One I salted and the other I did not. I packed each in a barrel of

salt, that is to say, I took the salt out of the barrel within 3 inches of the bottom and then placed the firkin in the barrel and packed the salt all around, and headed the barrel up. I sent it in the night twelve miles on a waggon, and had it put in the hull of a canal boat, and sent to New-York, where it was reshipped to its place of destination. He sent me fifty cents per lb. for it.

And for Mr. Boice's benefit, I will insert a portion of his letter: "I herewith enclose a draft on New-York for one hundred dollars, for 194 lbs. butter, the best I ever saw, and all who tasted of it say the same The unsalted package was, beyond a question, the best ever in this market, as it was considered by both dealers and epicures. The Dutch gentry, who think there is no one except their own people that can make any unsalted butter worth eating, would not believe it was made in New-York until I showed your letter. I want 75 firkins of your butter this fall—15 or 20 without salt, and I will pay you the highest market price."

I washed and worked the most of the unseasoned butter with my own hands, with soft water, which was brought a long distance, though there was a well of cold limestone water convenient to the dairy-house, which I had tried to my entire satisfaction, and abandoned its use for butter.

Shade Trees in Pastures.

Mr. B. does not believe my theory in butter making because he suspects I am the man who advised the farmers last year "to cut down their beautiful shade trees, to prevent cattle from cooling and screening themselves from the hot summer sun, that they may the more readily fatten."

Let me say there need be no suspicion on this subject. I am the very man; and if Mr. B. is a farmer, and understands his business, and will read and reflect, I will tell him a short story about shade trees that will do him good, when he gets to be an old man.

In fattening cattle in pastures, I became thoroughly convinced that shades were injurious, by fatting in fields where there were and where there were not shades, the pasture being equal. Convinced as I was in my own mind, by many fair tests, and the judgment of experienced graziers and butchers, I could not think of cutting down the trees which had cost me so much and looked so beautifully without a farther test.

I then procured a pair of scales on which I weighed steers and oxen selected with great care, and tried the experiment, and I found those where there was no shade increased from five to ten pounds per month more than those where there were shades, making a difference in the value in favor of those exposed to the sun of three or four dollars per head in six months. This difference, for beauty or comfort, was quite too large for my purpose; and when I knew the fact, the reason was quite plain. The cattle lay under the shade during the day, and ate the grass at night when the dew was on, which swelled it so that they could not eat as much; and grass is not so strong that cattle can eat so much as to cloy them if they should eat at the time when they could take the greatest quantity—(not so with grain)—and the lazy rascals will lie under the shade when they are hungry, if you give them a chance.

And now, Mr. B., if you have had no experience in fattening cattle, if you have ever raised corn, let me ask you if you know of an acre of ground where you can raise fifty bushels of shelled corn to the acre, with ten large beautiful shade trees scattered all over it. Cut down the trees and bring the land to, and I can raise seventy five bushels, which, at one dollar per bushes, would be twenty-five dollars per acre in lieu of the shade trees. If two and a half bushels should be regarded as too large a calculation for a tree, it should be borne in mind that the roots of trees on some soils extend three rods each way, and drink up the moisture and virtue of the soil which common farmers need for the growth of plants. And yet I do not advise Mr. B. to cut down his trees, if he has money enough to support his farm, or does not consider it an object to get seventy-five bushels of corn instead of fifty to the acre. If he can afford to have his farm covered with forest shades, I can not. I would advise those who till the soil for profit, to cut down the shade trees in their fields, and to set them about their dwellings where they will not injure their gardens, and take the best of care of them. A. B. Dickinson. *Hornby, N. Y.*

Cut-Worms and their Destruction.

Editors of the Country Gentleman—Reading in the last two numbers of your paper, the interesting account of the "cut-worm," and its habits, by Dr. Fitch, I was reminded of an exterminating war that dates back to 1840. I will give actual experience, and the result a sure remedy for the mischief of the worm, that has not failed for fifteen years.

E. Risley & Brothers, (myself being one of the number,) had a piece of onions, containing three acres, which, after being wed out the second time in June, when all were standing well, were entirely destroyed by the worm, and the land was plowed up. Twenty hands were engaged for more than one week to save the crop, and in that time there was bushels of the worms destroyed—(this will appear incredible, but it is true)—as some of the hands gathered them in cups so that an accurate account could be kept. In this case there appeared a kind of necessity that generally precedes invention. Late in the fall the land was plowed, and in the winter, it being open, it was again plowed, and the practice of fall plowing has been yearly kept up, and in winter when possible, and the result has been perfect safety from injuries by the worm. Before the time mentioned, the onion crop was often much injured, and always a large surplus of small onions were left to provide for the ravages of the cut worm, which caused great addition to labor in thinning out.

I am inclined to believe, however, that the egg that produces the worm is hatched in the spring, and not in the fall, as stated by Dr. Fitch. The miller, like all that class of insects that occupy two annual stages, the worm and the miller, deposits its eggs in the fall and dies. In the spring, as warm weather approaches, the worm is produced, and the same amount of warmth that brings forward the tender plant, matures the worm to destroy it, and so rapid is its career that two or three weeks ends its work in that capacity. If the worm lived through the winter, there would all sizes appear early in the spring, but the first seen are not more than one-eighth or one-quarter of an inch long, and all about the same; therefore I conclude that the eggs are deposited in the fall, so protected that if left undisturbed, they would produce the worm, but the plowing changes their situation, and so exposes them that they are destroyed.

My observation has also induced me to believe that the worms, though active in the night, are not such pedestrians as to travel from field to field. I have known, where land was prepared by plowing for the crops the worm would destroy, and only separated by an alley six feet wide from land where roots were set for seed, and consequently as there was no fear of the worm the land was not plowed in the fall, that the worms were so numerous that they would cut down down beans or cucumbers about as fast as they would come up when planted among the other crops, and would also cut off the leaves from seed onions, but rarely if ever pass this alley, where small and tender plants the worms most relish were standing; although the worm would probably go much farther in some other direction; as no green plants were growing in this alley there would be little inducement for them to cross it. Wm. Risley. *Fredonia, N. Y.*

Southern Peaches.

The Southern States possess remarkable advantages for the cultivation of fruit. Instead of only *two months*, the extreme length of the peach season at the north, they may enjoy peaches at least *five months*, by a proper selection for succession. What a field is open there for energetic, enterprising free labor, in supplying northern markets! But little can be expected while all the labor and skill is placed in the hands of those who have no stimulus of interest to prompt the work of their hands. Peaches begin to ripen in all the States bordering on the Gulf of Mexico, and in similar latitudes, by the first days of summer, or more than two months before the maturity of the same sorts in the Northern States; and thousands of acres there, planted with early sorts, might find a ready market for their crops, throughout the northern cities, and along the lines of all northern railroads. What a rarity a basket of large, rosy-cheeked, melting peaches would be here, just at the time our earliest strawberries and cherries are ripening! The trees grow rapidly there, and come quickly into bearing; a little labor, and a good share of skill, would soon open immense opportunities for acquiring wealth, for northern markets would absorb the early crops, as a parched desert absorbs a summer shower.

These remarks, which have often before occurred to us, are prompted at the present moment, by an excellent article on southern peaches in the Southern Cultivator, from ROBERT NELSON, a well-known and intelligent cultivator of fruit, now residing at Macon, Georgia. He states that when he first went there, the remark was often made to him, "Now you have come to the land of peaches; now you will see peaches, such as you never saw before!" And this, he adds, was true; for he had "never before seen such an abundance of mean, dry, hog-peaches, as those that abounded there!" "Their season was confined to about *six weeks*, or from the middle of July to the end of August," while since that time, the introduction of the best varieties, and the propagation of some new sorts, has given them "peaches of the very best quality, ripening in succession for five months, or from May to November."

The descriptive list furnished in the article alluded to, comprises 36 varieties, of which we observe 27 sorts are introduced from the North. The earliest named is the

May Peach, ripening at the end of the month of the same name, is small, four inches in circumference, with a white skin and flesh. Its origin is not given—but we should think it might be the old *Early White Nutmeg*.

Early Anne—"ripens the first week in June—crops always fair and regular—five inches in circumference—very juicy, and of delicious flavor." It is evidently much larger and more valuable than at the North.

Early Tillotson is larger than with us, "measuring about six and a half inches in circumference—ripe the 15th of June—very productive—perhaps the best of the very early peaches."

Serrate Early York, ripens a few days after Tillotson, and is about seven inches in circumference.

Among the peaches well known at the North, the following ripen during the first half of 7 mo., (July,) but do not appear to grow much larger than with us, viz: Yellow Rareripe, Walter's Early, Grosse Mignonne, Van Zandt's Suberb, Bergen's Yellow, Crawford's Early, Red Rareripe, and George IV. The following varieties mature during the last half of the same month, viz: Oldmixon Free, Congress Clingstone, Green Catharine, Late Admirable, Brevoort, President, Crawford's Late. The following are ripe during the first half of 8 mo., (Aug.,) viz: Columbia, Newington Clingstone, Late Rareripe, and Druid Hill; and the following during the last half, viz: Lemon Cling, La Grange, Kenrick's Heath, and Heath Cling.

With the exception of the "*Pavie de Pompon*," a well-known French peach, all the autumn peaches named in this list are of southern origin; among which are *Watkin's Cling*, a seedling from the Heath, ripening some days later; *White Globe*, a clingstone, "very juicy, with a luscious and highly aromatic flavor, ripe Sept. 8th;" *Demming's Orange*, "a beautiful yellow clingstone, ripe Sept. 15th;" *Baldwin's Late Free*, "large, oblong, juicy, melting, well-flavored, ripe Oct. 20;" *Nix' Late Cling*, "firm, juicy, well-flavored, ripe Oct. 20, and like most late peaches, *will keep several weeks;*" and *Thomas' November Cling*, "flesh white, very firm, juicy, highly flavored, ripe Nov. 1st to 12th."

Among the earlier peaches of Southern origin, we observe the *Hewellen*, "the earliest clingstone—superior flavor—bears carriage well—very regular bearer—a splendid peach, ripe July 1st." A few hundred thousand bushels of this variety would be eagerly purchased at the North, we have no doubt, and we hope that somebody will undertake to supply us, thus a month or more in advance of our earliest sorts.

The *Yellow Rareripe* is nearly as early there, and is often eight inches in circumference. Nelson states that he has sent *Crawford's Early* to Saratoga Springs, where it arrived in beautiful condition, and created quite a sensation, being nearly two months before its time of ripening here. *Congress Cling* has been shipped from Macon to Boston, where it arrived "in first-rate condition." The *Columbia* grows to a great size in Georgia, often measuring eleven inches in circumference, and weighing fourteen ounces. It bears carriage well, and has often been sent to New-York, arriving there in fine condition, but it does not ripen at the South till Northern peaches are abundant.

Profits on Potatoes.

MESSRS. EDITORS—In looking over the Feb. number of the Cultivator, I noticed a piece headed "Profits of Potato Raising," which induced me to send the following I raised on one-half acre of land last season, 119 bushels of as nice Carter Potatoes as I ever saw, on which I obtained the first Premium of five dollars, of the Rutland Co. Ag. Society. They were raised on a side hill—soil gravelly loam—that was in corn last year, without manure, except one bushel of plaster each year Estimated expense of crop, $21.50—119 bushels of potatoes, at 50 cts., $59.50,—profit on one half acre, $38. JOHN BARDEN. *Wells, Vt.*

Training Colts.

MESSRS. EDITORS—I have noticed two or three articles in THE CULTIVATOR, in reference to training colts to the halter. It is generally an easy matter to learn a colt to lead, if taken at a proper age, and the process is properly conducted. In doing it, the utmost care and kindness should be exercised. The person who undertakes the work should be able to *control himself*. He should not get angry or impatient in doing it. Very little force will usually be required, if the colt is properly handled. I do not agree with "A Farmer," in your March No., that "the best time is as soon as it is fairly on its legs." The colt is then weak, and there is danger of its injuring itself by resistance. At that age it is too young to *learn* readily, and I think all processes in training horses should begin by learning them what you would have them do.

A colt at six or eight weeks, is old enough to commence with, and not so strong but two men can easily manage it, and a less number will be insufficient to do the work properly, as there will be danger that he will struggle and throw himself, thus endangering life and limb. The operator should be sure that his halter is one that will fit easily to the head; one that will buckle is preferable. Put the dam in a stall and let the colt have a place by her side, and it will be easy, by a little coaxing and care, to put the halter upon it. Then let both dam and colt into an open place where there is plenty of room; let one get the halter and at the same time another take his place in rear of the colt to push him forward, while the other pats him and pulls lightly upon the halter. The colts will soon learn what is wanted, and follow the lead of him who holds the halter. Care should be taken that he does not pull back and throw himself. The principal force applied should be by the rear operator. When he has partially learned to follow the leader, hitch him to the harness of the dam, so that he can reach forward to her head, and lead her forward, having one in rear to push him if he hangs back. I have in this way learned colts to lead in 30 minutes' time, and that without their throwing themselves at all. G. C. M. *Amherst, Mass.*

A Cheap Way of Dissolving Bones.

The fertilizing properties of bones have long been placed beyond a question. The great difficulty has been to make their fertilizing properties easily and cheaply available, by all persons engaged in agriculture, however limited their knowledge. In their natural state, bones cannot be rendered available for purposes of fertility, and it is in consequence of this fact that so many bones are turned to no practical account. The same objection does not hold against pulverized bones; but bone mills are not common, and if they were, I question whether one person in ten would avail themselves of their advantages. That bones can be dissolved by diluted sulphuric acid, is a well known fact; but, in consequence of the expense, trouble, &c., not one farmer in a hundred has ever thus effected their solution. Manufacturers have converted bones into superphosphate of lime, and, when honestly made, it is a valuable fertilizer; but its price, especially when carried far from the place of manufacture, will prevent its general use. The object of this article was to call attention to a cheap and sure way of rendering bones available for agricultural purposes, that every farmer might be induced to save those accruing upon his own farm, and turn them to valuable account.

A few years ago it was asserted that ashes would dissolve bones; but, on further trial, they were found to do so only imperfectly, and then only when crushed. Their value, when applied to clover, wheat, and turnips, to pear trees, grape vines, and old pasture lands, is such as to render it desirable that they should all be turned to economical account.

When getting out manure, a year ago last spring, from my horse barn, I discovered several white, pultaceous masses, which, on examination, proved to be bones in a perfectly pulpy state. Their change could only be accounted for on the supposition that the horse manure had, by some unknown means, affected their disintegration. The thought occurred to me that this accidental discovery could be turned to good account. Accordingly, during the ensuing year, all bones from the kitchen were thrown into the manure heap constantly accumulating from the horse stable. Last fall that manure was removed to my orchard, and the bones were found in a soft and pulpous condition. The bones used were all fresh, and hence I know nothing experimentally of the effects of horse manure upon old bones.

It is but just to observe that, since these experiments were made, I have seen a short article, detailing similar experiments, in some paper, copied from an exchange without name or credit. Hence, facts like the above may not be new to some of our readers, yet I trust the importance of the subject will justify a repetition. O. C. GIBBS, M. D. *Frewsburgh, Chautauque Co., N. Y.*

A New Wind Power.

MESSTS. TUCKER & SON—I have read with much interest Mr. Nutting's communication in the Country Gentleman of Feb. 14th, describing a new wind power of his invention.

How the American mind is roused up to the subject of wind power!—In less than two years there have been issued at least 13 patents for self-regulating wind engines. If desired, I can, in another communication, give your readers a full list of the patents, the time they were issued, the names of the patentees, &c. The subject is a curious and instructive one.

Of these 13 wind engines, three are horizontal, with upright shafts and horizontal arms. In two of them the wings are also horizontal.

Mr. Nutting informs us that after two or three months study he has produced "a very greatly improved wind power, which" he thinks, "cannot fail to supersede all wind powers now in use, and be an exceedingly useful thing to every farmer and mechanic."

He goes on to speak, very justly, of some of the superior conveniences of a horizontal wind power, with its upright shaft, ease of adaptation, cheapness &c.

I am happy in being able to state to your numerous readers that all the advantages and conveniences which Mr. Nutting proposes to secure by his invention have been already obtained, and even more than he specifies.

A cheap motive power is no longer a problem. That which has been so long desired, and so earnestly and perseveringly sought for, has, at length, been obtained. A patent was recently issued to the subscriber for a new wind engine of a very simple and cheap construction. It is a horizontal self-regulating wind mill with horizontal arms and horizontal wings—the arms inserted in an upright shaft, and the wings, by the sole action of air in motion, presenting their broadsides, or their edges, to the wind.

I enclose a description by another hand, which was written more than a month ago. BENJAMIN FENN. *Hartford, Trumbull Co., Ohio, March* 14, 1856.

MESSRS. EDITORS—In a recent number of your paper I notice an inquiry about wind mills for farm-pur-

poses. The Rev. B. FENN, of this place, has lately obtained a patent for a new wind-mill, which is self-regulating, has no vane, or tail piece—is always ready for the wind whatever quarter it blows from, and is considered by competent judges superior to any ever made. It is simple, *durable*, and *costs but little*. As it can be made chiefly of wood, a common mechanic, or the farmer himself, if he has an "eye," can readily make one. It is emphatically, the farmer's wind-mill.

The machines of small size operate to entire satisfaction. The recent issue of the patent and the severity of the weather have prevented its trial on a more extended scale. The invention, no doubt, will work admirably and supersede many previous ones. It must be a desideratum to farmers and others desiring a cheap motive force below 5 or 6 horse power, and well adapted for sawing wood, turning lathes, grindstone, &c., pumping water for stock, railroad or other purposes, irrigation in a dry season, cutting stalks, hay or straw for fodder—in fact, useful in numberless ways. Some, more sanguine, believe it may be applied to heavier work, but time will tell. O. P.

Notes about Potatoes and Potato Culture.

MESSRS. EDITORS—I saw an article in the Worcester Palladium, credited to the Country Gentleman of Feb. 14, over the name G. W. DURANT. Now your correspondent seems to invite dicussion on the potato culture. He may possibly raise good crops by the method he intends to pursue with his five acre lot; but I advise him not to plow deeper than seven inches and to do this the last week in June, (planting as soon as possible after plowing.) harrow once lightly, lengthwise of the furrows; then mark it out three feet apart each way, and plant two pieces the size of a butternut in a hill,—the said pieces being cut from the largest sized potatoes—manure to his own liking, though the special manures I do not consider so good as a compost made of equal parts of barn-yard manure and mud or loam, which should by all means be put in the hill—then cover his proposed depth; no matter whether the hill is broad or narrow. When the potatoes are four inches high, plow with a common horse plow, turning the furrow from the row; then dress with the hand hoe, covering what weeds are in the hill and between. When the vines are nearly large enough to lop down, run the same plow, turning the furrow to the hill, and finish dressing with the hoe, making a good sized hill in the form of a dish around the vines to hold the water in time of showers, and so let them remain till harvest.

In pursuing this plan, there will be a saving of at least twenty dollars, in the item of labor. The manure I think can be afforded for about the same that the special manures would cost, and the crop when grown I think will be double, besides the land will be in a better condition for the after crops. When the potatoes are grown, we in the east, consider it best to leave them in the ground until the cool weather commences, then bin them in the cellar, upon the bare ground—a cellar that is not pointed from the bottom two-thirds the way up is the best, as the potatoes are not so liable to freeze—the root cellar to have the light excluded. ROBERT MANSFIELD. *West Needham, Mass.*

To Destroy Bark Lice.

MESSRS. EDITORS—In your last week's paper, I noticed an inquiry for information to destroy bark lice on apple trees, &c.

Take strong lye, and put in it as much salt as will dissolve, and wash the bark of the trees with it by means of a brush or swab. It will kill the lice, and they will soon rub off. The best time to apply it is in the spring before the buds start, as it will kill the young leaves. It will answer any time, if kept from the leaves. CHAS. LOMBARD *Corning, N. Y.*

Delaware County Dairies.

MESSRS. EDITORS—The remarks of your correspondents from St. Lawrence and Lewis counties, in the Country Gentleman of Feb. 14, respecting their dairies, induce me to say a few words about my own dairy, and one or two others in this part of Delaware county.

I have kept through the past season, eleven cows—one three-year old heifer, and two two-year old heifers—fourteen in all; and have made and sold from them twenty-nine hundred and ten pounds of butter—besides what was used in the family.

In the season of 1854, which was severely affected by the drouth, I made and sold a little over 200 lbs. to each cow. In 1853 I sold a considerable over 200 lbs. to the cow.

One of my neighbors has averaged over 200 lbs. of butter from each cow, in his dairy for three years back, and one year went as high as 220 lbs. to each cow.

My brother this year made 200 lbs. per cow, and I could mention several other dairies in this town, that have done nearly as well.

The cows in this section are mostly the native breed, and although at the risk of being considered behind the times, I must say, that for producing butter, they cannot be beat by any of the imported breeds, when selected with care, and well fed.

I think I could select a dozen native cows from three dairies I know in this town, from which I could make 300 lbs. of butter a piece in any ordinary good season. S. L. WATTLES. *Sidney Centre, March 1, 1856.*

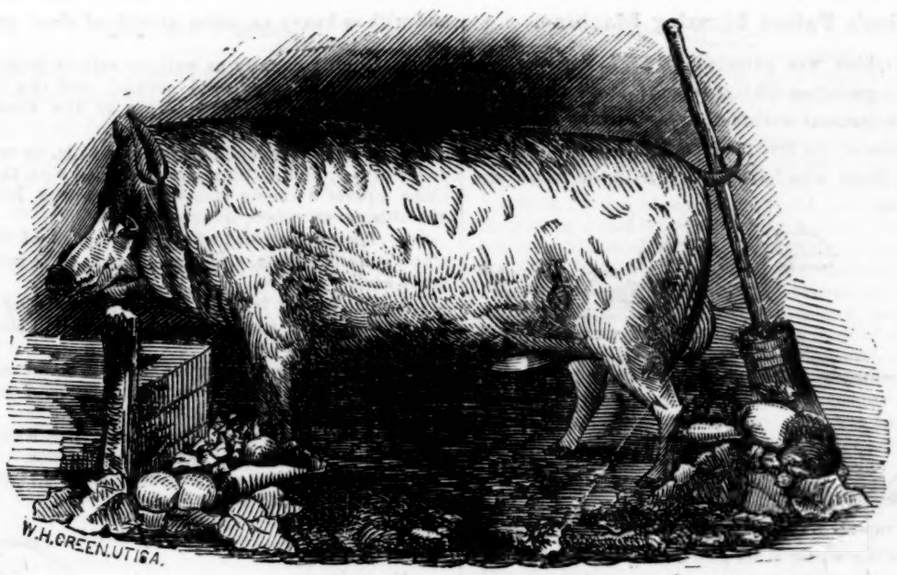
Experience in Growing Corn-Fodder.

I procured in Boston last May, a quantity of the White Dent Corn, and sowed in drills for the purpose of securing sufficient fodder for my stock for the coming winter. My anticipations were fully realized in the crop. I cut it, let it remain on the ground two or three days, then bound it up and set it up in stocks of about 8 bundles, and let it remain till snow fell. It being in complete order I supposed it safe now to put up in stacks, which I did around a pole set in the centre. In January I was surprised to discover my corn-fodder all on fire to appearance; smoke or steam arose several feet above the stack, and the stacks began to settle. On examination I found my excellent corn-fodder was ruined entirely. I put about four tons into the barn, which proved to be the best fodder I ever fed to cattle. I consider it the cheapest fodder I can raise.

TWO CROPS A YEAR.—I sowed a small piece of ground the first day of June with the white dent corn in drills, and harvested the first day of August, fodder measuring eight feet in height, which is rather too large for profit. I plowed the same piece, and sowed it the second day of August, and had another good crop three feet high, and very nice to feed green. A. WILLARD, Jr. *Hartford, Wash. Co., N. Y.*

How to Make Butter Come.

I sympathize with an "Old Subscriber," in his inquiry—Why will not butter come? I have gone through the same experience, some years past; but for three or four years past, we have adopted the plan of heating the milk in a tin pan, when first brought in, so hot that a bright scum is all over the surface; then set it in pans, as full as you please to have them, for the cream to rise. Skim as you choose, either before or after souring, and churn in the usual way—(we have Kendal's churn) We hope to set the milk where it will not freeze, but this winter it has in a few instances, frozen some. We have, however, no difficulty in having the butter come, and a rich looking sweet butter, that does not resemble the old fashioned winter butter that is exhibited in our shops. A SARATOGA CO. FARMER.



Suffolk Boar Express 2nd,

The property of, and bred by, THOMAS GOULD, Aurora, Cayuga Co., N. Y. Parents bred by Lewis G. Morris, Esq., of Fordham, N. Y. Grand-parents imported by Mr. Morris.

Farm Rotation, &c.

MESSRS. EDITORS—Allow me to ask, through the columns of your valuable journal, a little advice as to the proper course of managing a farm containing 126 acres, situated as follows: 26 acres now in to wheat —10 acres of rather low land, now in meadow—23 acres wood—10 acres upon which was a crop of corn and potatoes—balance all seeded to clover, one and two years ago. To be managed by one who has no experience in farming, except what has been got out of the Country Gentleman and Rural New-Yorker for two years past, and not disposed to work. I also propose to adopt the system of keeping true and accurate accounts with every field, that I may be able myself, at some future time, to enlighten some poor fellow in my situation. PRODUCE. *Le Ray, N. Y.*

We take it for granted that our correspondent wishes mainly *a system of rotation* for his crops. This must vary with soil, market, and other circumstances; but the following would probably answer a good purpose in the instance before us. A good rotation, as we have stated on a former occasion, is, 1st year, Wheat after clover; 2d, Corn and roots, with all the manure; 3d, Barley or peas; 4th, Wheat seeded with clover; 5th, Clover pastured for a greater or less number of years, according to circumstances. Or, the first crop of wheat may be omitted, making, corn after clover; barley or peas; wheat; and clover.

Our correspondent has 23 acres of wood, for the management of which he is referred to the full article on the subject published last year. The ten acres of low meadow, will need occasional plowing and re-seeding with timothy, and may be cropped after plowing with oats, corn-fodder, and if dry enough, with corn. The ten acres last year in corn and potatoes, may be sowed this spring with barley, peas, and beans, to be followed by wheat and clover. The 26 acres now in wheat, must be heavily seeded with clover immediately. Of the 57 remaining acres in clover, one half or one third may be put into corn or wheat, according to the above proposed course, and the remainder afterwards, as the rotation may require, and circumstances dictate. Some discretion must be used in modifying or applying any general directions like these, by every good farmer.

One word more, about "not working" The farmer who always carries his hands in his pocket, unless he has a skillful and energetic superintendent, (the pay of whom would not be warranted from a moderate sized farm like the above,) cannot expect to realize so much profit, as one who at least *knows how* to work. The head farmer must be a good plowman, or he cannot *show* his workman how to turn his furrows, how to adjust or gauge his implement when it works wrong, &c. If he is not personally familiar with every operation, and cannot occasionally take hold with his own hands, his workmen will be likely to take many advantages of him, and impose upon him. Kid-glove farming may be interesting, but it cannot as a general thing prove profitable.

Beans—Answer to S. H. W.

I have been a grower of beans more or less for the last twelve years—have tried all sorts, but have never had any to equal the enclosed for profit. I got them by accident, and do not know the name of them; perhaps you or some of your friends do. They are very early, so much so that I have been first in Buffalo market with them as a string bean; they yield well; the pods are all ripe together, a very good property for a handsome sample, and are off the ground in good season for wheat. Had only two acres of them last year, managed as follows:

Ashed the land with leached ashes at the rate of six loads per acre; put on two bushels of seed to the acre, with Emery's drill barrow, the drills two and a half feet apart; worked the cultivator between the rows, and followed by the hoe. Pulled and thrashed them, and had eighty-one bushels of good beans on the two acres, and left perhaps four bushels in the straw as I was not particular, it being saved for sheep. They left the land in a fine mellow condition; sowed it to wheat without plowing, cultivating it in. It looked well last fall, better than some by the side of it that was fallowed and plowed through the summer. It has been covered ever since with from 3 to 4 foot of snow and no appearance of its going. H. H. B. [The beans enclosed, were the "White Cranberry."]

Allen's Patent Mowing Machine.

This machine was patented in 1852, but was not thoroughly perfected till last season; at which time it gave such general satisfaction, as to take its place among those of the first rank, and is preferred to all others by those who have used it with the latest improvements.

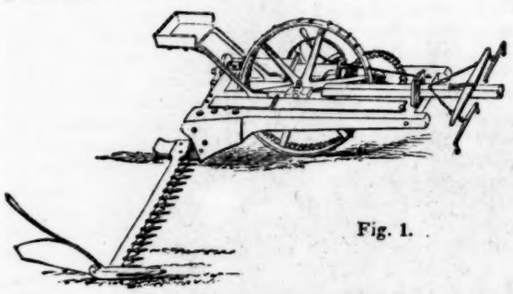
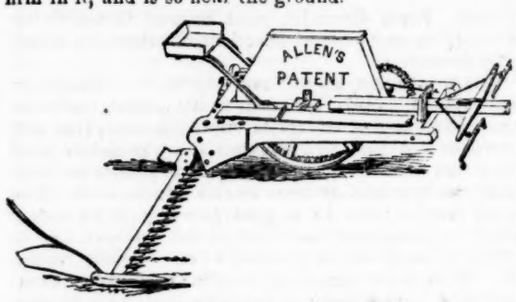


Fig. 1.

Fig. 1, represents the Mower without the cover, so as to show the whole of its gearing. Fig. 2, represents the Mower with the cover on ready for operation. The object of the cover is, to preserve the driver from injury by the gearing in case of being thrown from his seat, of which there is scarcely a possibility, he sits so firm in it, and is so near the ground.



The superiority of Allen's Mowing Machine consists,

1st. In its ease of draught. It will cut and spread in the most perfect manner one acre per hour* on an average, of the heaviest kinds of grass, with a light pair of horses, not over 14 to 15 hands high.

In order to show its lightness of draft, I have repeatedly hitched one horse about 16 hands high to my mower. The grass was from one to one and a half tons per acre, and the swath cut was 4 feet 8 inches wide. This horse did not make harder work of it alone, than he and his mate did when hitched to a machine of another patent, in the same kind of grass, and cutting no wider swath. I however think it too fatiguing for one horse alone to work any great length of time with my machine, cutting so wide a swath.

2d. My mower can be worked with *oxen* as well as horses. It cuts the grass as perfectly when moved at the rate of only two miles per hour, as when going three or four miles per hour. This is a great consideration with northern farmers where oxen are so much used, also with those who work slow horses and mules, or during a very hot day, when it is so distressing to the team to move at a quick pace.

3d. Since the latest improvements have been put on this machine, the knives never clog or choke, even in the wettest, thickest, finest grass. This is a great consideration, particularly in so wet a season as the last was, and with so heavy an under growth of short grass to cut.

4th. It cuts equally as well on salt or fresh water meadow, as on dry, solid ground, and the tallest, heaviest and worst lodged grass as the finest and shortest.

5th. It does excellent work on side hills, up or down, or sideways; and nothing else ever tried with this machine equals it among stones, rocks, stumps, hassocks, ant-hills, or on rough, uneven ground.

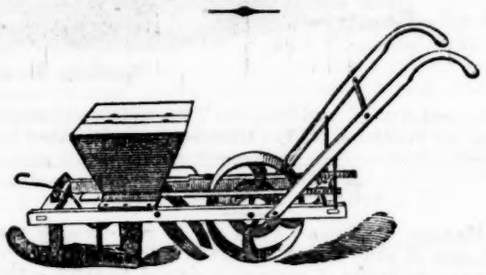
6th. The gearing and whole construction of the machine is quite simple, and it moves with little noise and great ease.

7th. The mower is light, compact and strong; lasts a long time with proper care, and is not liable to get out of order.

8th. It is easily transported and can be driven, with the finger board off, along any ordinary road with the same ease as a light wagon.

A compact Combined Mower and Reaper is made upon the same principles as the Mower alone. It is of light draught, strong and durable. R. L. ALLEN. 189 *and* 191 *Water St., New-York.*

* Mr. Austin Roe of Patchogue, Long Island, N. Y., informs me that he cut *nineteen* tons of hay last season from *eight* acres with one of my machines in *four hours*, which is at the rate of *one* acre in *thirty minutes*. Others inform me that they have repeatedly cut an acre of grass with it in *thirty* to *forty-five* minutes.



Billing's Improved Corn Planter and Fertilizer.

For a notice of the operation of this machine, see Co. Gent. for March 27, p. 202. See also advertisement of the manufacturers in this paper. One of the machines is on exhibition at this office.

Shade Trees.

MESSRS EDS.—I wish to plant a few shade trees in a situation somewhat exposed to westerly winds, in a valley some 800 to 1000 feet above the level of the sea, and in latitude about the same as Albany; would the Tulip tree, (Liriodendron tulipifera) succeed in such a location? WM. F. BASSET. *Ashfield, Mass.*

The tulip tree is perfectly hardy, and if trees already inured to open ground are planted as proposed, they will doubtless succeed. Taken from dense forests, where the shelter and shade has almost made them like greenhouse plants, their success would be quite improbable. The tulip-tree is a very difficult tree to transplant, and unless small trees are taken, or those which have had their roots shortened by previous removal, loss may be the result.

Blight in the Privet.

Be good enough to inform me through the Cultivator, the cause of the blight in the Privet or Prim, and whether sawing off the branches will save the roots?

Having a hedge of Prim, which was killed by the blight the last season, I wish to save it through the roots if possible—if not, to save the use of the ground on which the same stands this spring. Any information on this subject will much oblige, SILAS R. GRIDLEY. *Bristol, Ct.*

[Having never met with any disease of the privet similar to that mentioned above, we must apply ior information to those who have had the necessary experience.]

Corn for Fodder.

There being at present quite an interest evinced among the farmers throughout the country respecting the merits of Indian corn as a fodder crop, I propose making a brief statement of an experiment made by myself in its culture, not because I conceive that I have achieved a thing worthy of note, but rather, (which is less common,) to point out errors of culture, and at the same time to yield an approval to the system, as being a good and profitable one.

The soil, some five acres of old meadow sod, was turned over during the first day of June, in a fair but not superior manner. The land descends toward the east, soil varying from a dry clayey loam to a low and rather wet muck—subsoil a clay hard-pan, and the whole quite thickly interspersed with rubble stone. Upon this field, passably well prepared, I sowed broadcast at the rate of about 3 bushels per acre, of yellow 8 and 10 rowed corn, and covered with the harrow. On account of a grievous scarcity of labor, and the pressure of other matters, the harrowing was not as thoroughly performed as it should have been, and the next rain, (which by the way was a tempest,) left much of the seed uncovered.

Immediately succeeding this storm, came a lengthy drouth, and of its effects I purpose to tell. Upon the dry and loamy portion of the field, much of the seed failed to vegetate, and as a consequence the stand was thin, and some weeds grew among the corn. Also in some low places, where the water collected and saturated the soil for too great a length of time, the same result obtained, save that the stalks were somewhat shorter than upon the loam. As a large portion of the field was springy and the crops usually much injured by surplus water, I had opened a large ditch lengthwise through the center of the low ground, which ditch however, proved far from sufficient to effect a thorough drainage of the field. Upon the muck drained by the ditch, the growth of corn was almost gigantic, though very thick upon the ground; indeed it was a perfect wilderness through which it was almost impossible to force a way. In this, as in other crops, I find drouth powerless for harm, upon a well-drained soil; and in this instance, the increased product would nearly have repaid the whole cost of thoroughly draining the whole field, had it been possible to procure the requisite labor; but in this vicinity that is the scarcest article in market.

Of this fodder, a small portion was fed green, during the August and September drouth. It was well relished by my stock, (horses, oxen and milch cows,) and supplied in a most satisfactory manner the deficiencies of a dry and sun-scorched pasture, and kept up without diminution the flow of milk.

I allowed the bulk of the crop to stand until the lower blades began to wither and show 'the sere and yellow leaf,' when I proceeded to the harvest, and *then* came the tug of war. My men being unacquainted with the peculiarities of a crop of fodder corn, were sanguine of success with the cradle, but after wrecking one and badly injuring another, they sagely concluded that a cradle was *not* the tool with which to harvest an 8 feet growth of fodder corn, though the stalks were ever so slim; and where shorter, their weight and the tangling of the blades rendered the attempt hopeless. I then set them at work with English grass hooks, which performed the work satisfactorily, albeit somewhat tediously. The stalks were bound in rather small bundles and set up in stooks; and as they require to stand quite a length of time, I here remark that the operation can not be too thoroughly performed. The stooks should be rather large, and well bound with *straw*. *Stalks* will not answer, as they are apt to break, and let the whole fabric fall to the ground.

A portion of my stooks were originally put up small and after being partially cured were united, 2 or 3 being made into one. This is the best method of management, as the time required is but a trifle, and the ends of thorough curing and security from injury, are both attained thereby. After the stooks have been united, they can remain until a convenient time for storing, which can be done in various manners, and as I am relating my experience, I shall not spare my failures. I drew a portion of my fodder to the yard and stacked it, placing 4 and 5 large loads in a stack, thus making (as I soon learned in a most convincing manner,) my stacks too large. The stacks soon generated heat and began to smoke at a fearful rate, whereupon I speedily took them down and set them out to cool, and then put them up in small stacks with a net work of rails under the bottom, to keep them from the ground, and admit the air. After this they gave me no more trouble. Another portion of the fodder I drew to my barn, and stored about in different places upon the scaffoldings. This last, (when the farmer has plenty of scaffolding,) I think to be the best and safest method of storing.

I have since learned that the correct mode of stacking corn-fodder, is to obtain a rather bushy sapling, cut off the limbs, leaving their stubs a few inches in length, and plant the pole thus prepared firmly in the ground; next throw some bits of rails, &c., about its base, to keep the fodder from the ground, and you are ready to commence the stack. Build the same carefully and in a circular form, with the butts of the stalks out, and allowing the tops to pass a little by the pole in the center; twist these tops occasionally about the pole, so that when the stack settles the center will retain its position, and thus leave the whole affair in condition to shed off the storm. A stack thus built will preserve the fodder in the brightest and best possible condition, and as it will be small, it can be fed out in the winter without receiving material injury from the storms while open.

I am unable to state the precise amount of dry fodder yielded per acre, but should think it to be about 5 tons. Suffice it to say that the return was satisfactory, furnishing as it did, by far the larger portion of food for the sustenance of a considerable stock through the winter, and furnishing it too at a cost far below that of an equal amount of hay.

I can safely premise that of all the readers of the Country Gentleman who wish to secure themselves against the effects of drouth, and the consequent failures of the hay crop, not one will have cause to regret the provision of a liberal stock of corn-fodder, to guard against unforeseen casualities. J. G. K.

Value of Liquid Manure on Meadows.

Messrs. Editors—I wish to say a word about top-dressing meadows with liquid manure. I built a vat which holds about twenty-five hogsheads, so placed that I could drain into it all the liquid from the stables, yard and privy. All dead carcases may also be put in, if not too large, by putting some lime in with them which will prevent their being offensive. The liquid is distributed in the same way as streets are sprinkled with water in the cities. A chain pump is the best and cheapest way of getting the liquid from the cistern.

I went over a lot, that three years ago was not worth cutting, three times, and now it produces about three tons of hay per acre. I think every farmer ought to have such a vat, as he thus saves a great amount of valuable manure which now in most cases is wasted. John Marsh. *Beech Woods, N. Y.*

Cattle Sales.—Three Devon cows and a pair of calves, from the herd of Mr. Thomas Gould of Aurora, Cayuga Co., passed through this city last week, on their way, two of them, to Mr. A. M. Tredwell, Madison, N. J., and three of them to Mr. P. T. Graves of Lowndes County, Alabama.

Madagascar or Lop-Eared Rabbit "Mario,"

The property of, and bred by THOMAS GOULD, Aurora, Cayuga Co., N. Y. Length of ear 7½ inches—width of do. 4½ inches—weight 11 pounds—age 5½ months.

Experiment on the Elementary Principles of Manure as applied to the Growth of Wheat.

Such is the title of the last contribution to agricultural knowledge from the pen of the late PHILIP PUSEY, editor of the Journal of the Royal Ag. Society, England. In addition to the inherent value of the facts reported, and of the inferences deducible therefrom, somewhat of a melancholy interest will be felt by some in perusing this report, on account of its being the last communication to his agricultural brethren by one who held such a high place in the esteem of the public.

In this brief article we shall submit to our readers all the more important items of the original report, in a much condensed form.

The experiment was made on a field of eight acres, set apart from common cultivation for the purpose of accurate experiment. The soil was of no great depth, resting upon marble rock, and was exhausted by five previous crops of grain grown in succession to such an extent as to be an accurate test of artificial manures. Mr. PUSEY thought that the most interesting use that could be made of it might consist in the separate application of those elements which are supposed to constitute conjointly the efficacy of farm-yard manure, and separately to act as fertilizers of the soil.

These elements, according to the received theory of agricultural science, may be comprised under four heads: 1. Nitrogenous substances; 2. Phosphorous; 3. Alkalis and principally Potash; and 4, That which constitutes the bulk of farm-yard manure, the strawy matter, or, in chemical language, carbon.

The nitrogenous matter employed was nitrate of soda, which has been proved to be tantamount to ammonia for agricultural purposes.

The experiment was made by drilling separately superphosphate and peat-charcoal with wheat in the autumn, and top-dressing a portion of each lot in the spring with the nitrate of soda. The fourth element, potash, was also applied in the spring.

The question of the efficacy of superphosphate on wheat, seemed to be especially interesting because of its vigorous efficacy when applied singly to the growth of turnips.

The result of the trial is given in the following table:

Quantity of Manure per Acre.	Bushels of Wheat per Acre.	Ditto with a top-dressing of 170 lbs. of Nitrate per Acre.
4 cwt. of Superphosphate,	7	19½
6 cwt. of Peat-charcoal,	8¾	18
No application,	7½	19 3-10

From the result of this experiment Mr. P. thought it evident that the superphosphate, though all important for roots, had done nothing for the wheat, even on such very poor and exhausted soil, on which the efficacy of concentrated fertilizers is most easily discernible. The charcoal would appear in the first column to have done something, but as that result was not confirmed by the combined trial, the difference was very probably accidental.

The fourth element, potash, was tried by top-dressing an acre of wheat with 1 cwt. of pearl-ash; but it was evidently inoperative on the crop. So much so that separate thrashing was deemed unnecessary.

As far, then, as we can rely on this experiment, carefully made with soil duly prepared by previous exhaustion, it testifies, as Mr. P. remarks, that the only element of farm-yard manure required by wheat is nitrogen, as contained either in nitric acid or in ammonia. If this be true in an exhausted soil, where the plant can only find its other elements in the soil as it gradually crumbles down, or in the atmosphere, it must be still more true in practical farming, where they will be supplied ordinarily by manures applied to the other crops of each course.

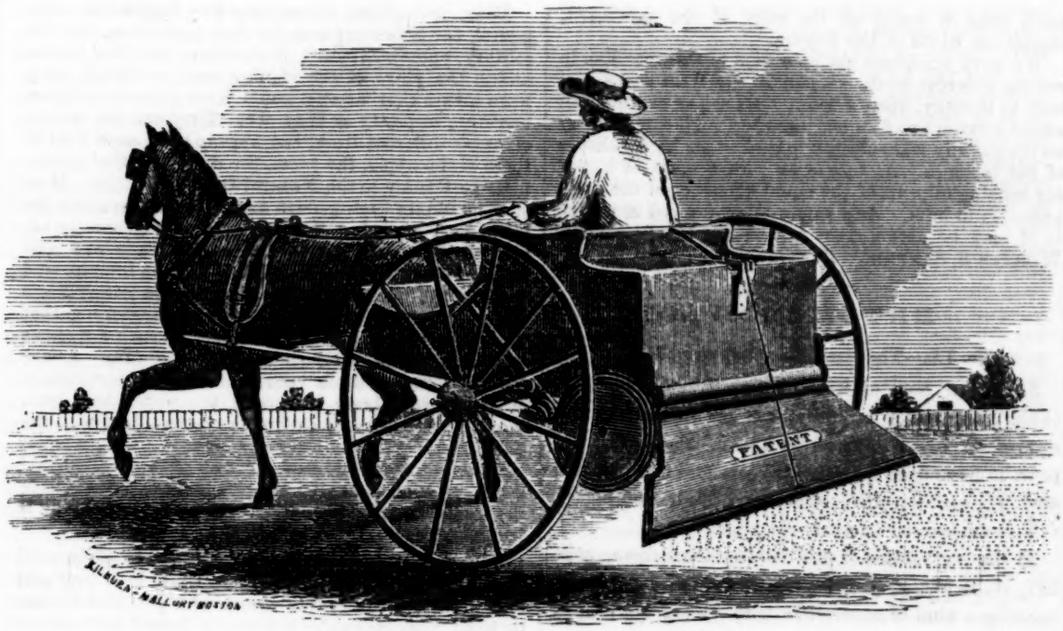
As to one element of farm-yard manure—the woody or carbonaceous matter—the experiment is not conclusive, because, as remarked by Mr. P., though carbon applied *as charcoal* did not operate on wheat, the woody or strawy carbonaceous matter contained in ordinary manure, being more easily decomposed, might be operative.

In this experiment the produce is very low. This was owing to the gradual impoverishment of a naturally poor soil by a succession of grain crops, aided by the cutting winds of a harsh spring, which had almost blown the plants out of the soil, and rendered them almost invisible in May. In a more sheltered part of the same field the result was much better.

The *negative* results of this experiment go so far to prove the inefficiency of certain chemical elements of manure on the growth of the wheat-plant. Its *positive* result goes to prove the benefit of nitrogenous applications, and of top-dressing as one mode of applying such substances. Top-dressiug is, probably, deserving of more frequent trials in ordinary practice.

Cure for Bloody Murrain.

Take fresh droppings of a healthy cow—mix with water, blood warm, as thick as will conveniently pour, and give one quart at a time, three doses, two hours between each. Eight or ten hours after, give one pint soft soap. I have never known it to fail, and have tried it a number of times. JESSE MOSS. *Jubilee, Ill.*



Stevens' Broadcast Seed Sower.

The above cut represents Stevens' Broadcast Seed Sower, *Patented May* 22, 1855, of which the following is a detailed description:

As noticed in the cut, it is a very light, comfortable carriage, mounted upon two wheels; tasty in form, built entirely of wood. The forward part of the carriage is used for carrying grain or fertilizers in bags. The rear part is the hopper or seed box, for the seed or fertilizer in bulk. This hopper is so constructed as to deliver its contents to an opening in the rear part of the carriage, being the bottom of the hopper or seed box. This opening extends the whole width of the seed box Directly in this opening lie a couple of rolls or "regulators," 2½ inches in diameter. These rolls are usually made of rubber, but any elastic substance will answer, the object being to protect the seed from crushing while passing through. On one end of the lower roll is fixed a cone, with scores for change of belt, for seeding light, medium or heavy. Around the cone runs a belt: this belt passes over a similar cone, being part of the hub of one of the wheels. In the rear of the seed-box, is a slide for cutting off or letting on the seeds, operated by the lever behind the man in the seat.

The seed-board or distributor, seen sprinkling the seed, is hung upon hinges, the lower edge supported by a cord, fastened just behind the driver. When passing over stumps, stones, or inequalities of soil, the operator raises and lowers the board by merely taking hold of the *bite* of the cord. This seed-board is made very light, and is filled with partitions, radiating from the rolls; these partitions extending down within two or three inches of the lower edge. The lever seen at the side, is for tightening the belt, held by a *ratchet*, wherever the foot places it. The upper roll is raised or lowered by a simple *thumb-screw* at each end.

The farmer now directs his boy to load the carriage at the granary, filling the hopper in bulk, and taking in the front as much grain or fertilizer in bags, as will answer for the half or whole days work. He now places the belt upon the score of the cone which represents the quantity he wants upon the acre, and rides to the field. When ready to sow he lifts the lever behind him, letting the contents of the hopper go down to the opening between the rolls. The moment the rolls start, the seed or fertilizer commences passing in mathematical quantity between them into the seed-board, and continuing to do so until the hopper is exhausted. Between the partitions of the seed-board the seed courses down until it reaches the ends of the partitions, where it again mingles, falling over the edge upon the soil in form of a shower.

To change the Broadcast for a Drill Machine, remove the seed-board—done in a moment—and attach the drill-board, which in outward appearance is similar to the seed-board. The drill-board has within it, a quantity of *tubes*, pivoted at the head near the rolls, and movable at the lower ends, fastens with a common thumb screw. The seed comes from the hopper as in broadcast, and is regulated as to quantity per acre in the same manner. It comes down the *tubes* and falls into the furrow just behind the point of the drill or share. A coverer and roller follow, completing the operation. The lower ends of these tubes being movable, admit of the rows being drilled as near or as far asunder as you please.

Machines are made for *hand* or *horse* power. For hand power, it being 5 or 6 feet wide, the machine will weigh about 120 lbs. only, and the farmer walking at the rate of 2½ or 3 miles per hour will cover 15 to 20 acres daily—for horse power, sowing 10 to 12 feet wide, weighing about 300 lbs. only; the horse moving at a speed of 2½ or 3 miles per hour, will sow 35 or 45 acres daily. A larger machine, sowing 25 or 30 feet wide, will cover 60 to 100 acres daily.

To finish out narrow strips of land, of less width than the capacity of the machine, you but throw the seed or fertilizer into the middle or one end of the hopper, confining it by one or more little slides not seen in the cut, and finish out your piece without waste of seed where you have already sown, or upon the grass bordering the field.

It will be noticed that whether the machine moves *fast* or *slow*, the horse trotting or walking, the same quantity of seed is put upon the rod or acre, the whole being governed by the *speed* of the rolls, and the speed of the rolls being governed by the speed of the machine.

The whole operation of this simple machine, is summed up in a very few words. The contents of the hopper are simply *rolled* out between two elastic rolls, in the plainest possible manner, and distributed accurately upon the soil, by the means of a double board with partitions, gradually widening the current of

seed, until it *rains* off the edge of the sideboard, *double* the width of the hopper.

We have examined the operation of this machine in sowing different seeds, varying in size from beans and corn to timothy, upon a floor; and, so far as this will afford a criterion of its merits in the field, can discover no reason why it should fail to realize the highest hopes of the inventor. As a Drill we cannot speak of it, but see nothing to prevent the equal efficiency of the same principle in both. Any information desired in regard to it may be obtained by addressing the proprietor, WILLIAM S. SAMPSON. *Boston, Mass.*

ENTOMOLOGY.

No. IX.—The American Vaporer Moth.

S. MOORE, Esq., of Kensington, Ct., says he finds (Feb. 26th,) on the small limbs of his apple trees, the eggs of an insect, covered by a leaf. The worm appears to have spun a kind of cocoon, laid its eggs, and died. He wishes to know what insect this is, and whether it is advisable to destroy the eggs.

In the last volume of the Country Gentleman, page 202, W. H. W., of Albany, asked for information respecting a kind of caterpillar with yellow tufts upon its back, which he found quite common upon his plum trees in July.

I suppose both these inquiries relate to the same insect, an account of which I proceed to lay before the reader.

We commonly apply the term "caterpillar" to *a worm which is clothed with hairs*, and we are accustomed to associate this term with something which is ugly and repulsive in its appearance. But many caterpillars are far from meriting this prejudice, being in reality objects of much beauty. This is eminently the case with one which may every year be seen in the month of July, upon rose bushes and apple trees. We cultivate the rose for ornament. And nature, as if to further our design, places upon the bushes this neat prim little caterpillar, which is more delicate and elegant than the finest rose that ever grew. I well remember the first time I noticed one of these caterpillars. It was in the hay-field, in my boyhood. One of the laborers, who had litlle taste for any of the beauties of nature—a man of that class of whom the poet sings,

> "The primrose, growing by the river's brim,
> Is but 'a yellow primrose'—nothing more to him"—

in stooping for a handful of grass to wipe off his scythe, had his attention arrested by one of these caterpillars. Taking up the leaf on which it was standing, he was for several moments absorbed in contemplating its bright colors and the artistic arrangement of its elegant tufts and plumes. Then laying it down, he said to himself, "That is the prettiest thing I ever saw." Let us not murmur, if the leaves of our rose-bushes are somewhat gnawed and eroded, when they hereby produce for our admiration objects far more beautiful than we looked for them to yield.

These caterpillars are over an inch long, slender, 16-footed, of a cream yellow color with a black stripe upon the back and a broader brown one along each side. Their heads are bright coral red, or like sealing-wax, and there are two little knobs or bosses of the same rich color, protruding from the hind part of the back, whilst upon its fore part is a row of four brush-like tufts, formed of short yellow bristles, the rest of the body being thinly covered with long fine hairs of a paler yellow or nankin color; and upon each side of the neck is a pencil formed of long black hairs, each hair having a little knob at its end, and on the hind part of the back is a third pencil of the same kind.

These caterpillars do not associate together in companies, nor make any web for their protection, but live solitary, openly exposing themselves upon the leaves and in the glare of the shining sun, as though they were aware that no one would have a heart to injure anything so pretty as they are. They eat the leaves of many different trees, but appear to be most fond of those of the apple, the plum, the rose, and other perennials pertaining to the Natural Order ROSACEÆ. Most of them attain their growth and form their cocoons the latter part of July. Their cocoons are generally attached to the twigs or limbs of trees. They are constructed of whitish silk, loosely woven, and interspersed with the yellow and black hairs of the caterpillar's body. Commonly one or two leaves are drawn together around the upper part of the cocoon, in such a manner as to form a roof, sheltering it from the rain. I once met with one of these cocoons, occupying the surface of a butternut leaf; and as if the worm had been aware of the brittle attachment of these leaves to the main stem and was conscious that the weight of its body might cause the leaf to break off and fall should a gale of wind arise, it had spun several threads from the end of the cocoon to the main stem, thus tying it securely thereto.

The pupa or chrysalis, which is inclosed in the cocoon, is shaped like an egg, five-eighths of an inch long and half as broad. It is dark brown with pale clouds, and its head, back and sides are thinly clothed with rather long fine white hairs, and upon the top of each of the three interior wings is a transverse spot of a clay yellow color, formed of short crinkled scales. In each instance when I have bred this insect, the moth made its exit upon the thirteenth day after spinning its cocoon. But some of the caterpillars do not attain their full growth until much later in the season, when the pupa lies in its cocoon through the winter and the moth comes out the following spring.

From the gay appearance of the caterpillar, one would expect it to produce a very pretty moth or miller, and will be disappointed to see it yield a dull sooty brown thing, little variegated, the outer part of its fore wings beyond the middle being ash-gray crossed by a blackish oblique streak, with a rhombic blackish spot immediately behind this streak, and near the inner angle of these wings is a round white spot. These are all the marks that can ordinarily be discerned upon the wings of these insects, when bred as far north as this, the wings when spread measuring an inch and a quarter across. Farther south, however, they become paler colored, and show additional spots and marks. Specimens from the vicinity of the city of New-York, have the oblique streak above mentioned prolonged in a wavy manner entirely across the wing nearly parallel with its hind margin, with a broad gray band forward of it, occupying all the middle portion of the wing, this band being much broader towards the outer edge, and showing a black crescent-like streak in its middle, with a black dot outside of it. The rhombic spot, moreover, is cut in two by a pale line. Still further south, the insect is much lighter colored and more complicately marked, as appears from the figure given in Abbot and Smith's splendid work on the Lepidopterous Insects of Georgia, in which this species was first named *Phalæna* (*Bombyx*) *leucostigma*, or the Pale vaporer moth. The epithet "pale," however, is inapplicable to the dark colored northern varieties which I have described above. In England, insects similar to this are named "vaporer moths." This term, implying something which has a volatile, peevish, hysterical disposition, has probably been given to these insects in consequence of their singular mode of flying, which is with short jerks, in a flirting manner. They pertain to the genus *Orgyia*, in the family *Arctiidæ*. *Orgyia leucostigma*, variety *borealis*, thus becomes the correct scientific designation of these insects as they occur in the neighborhood of Albany. They are here so unlike the insect figured by Abbot, that I should deem them a

distinct species, were it not that the caterpillars, which are so peculiarly marked, appear to be identical; and specimens of the moths from the southern border of our state are intermediate between our northern and the Georgia insects, thus indicating that there is a gradual transition from the one to the other.

It is the male insects of which we have as yet been speaking. The females are very different in their appearance, being destitute of wings, and having in place of them small scales only the tenth of an inch in length. This sex therefore appears more like a worm than like a perfect insect. It is about half an inch long, of an oval form, densely covered with ash-gray hairs. These females merely crawl out of their cocoons, and there remain. Their mates find them immediately, and they without delay begin to deposit their eggs, placing them upon the surface of the cocoon. The eggs are about the size of mustard seeds. They are white and round, with a depression on one side, and are enveloped in a large quantity of frothy, milk-white, viscid matter, causing them to adhere securely to the cocoon and to each other. They are extruded in a continuous string, which is folded and matted together, forming an irregular mass. I once pierced one of these insects with a pin when she was in the act of depositing her eggs; and so tenaciously did she adhere to the string of eggs, that for a time it was uncertain whether the body would not tear asunder before it would separate from the string. This act is completed in a day or two after she comes from the cocoon, from one to two hundred eggs being deposited, and she then expires. In all this, the designs of the Author of nature are plain to our comprehension. Having no wings by which to escape when menaced with danger, were these worm-like females to crawl about upon the limbs of the trees, their pale gray bodies would be readily seen and they would be devoured by birds. By remaining stationary as they do, upon their light colored cocoons, they are much less liable to be noticed. But still the peering eyes of a bird may discover them even in this place. They therefore hasten to fulfil the purpose of their existence, without delay, that it may be completed before any casuality occurs to them.

The frothy matter in which the eggs are enveloped becomes dry and hard, and impervious to wet, thus protecting them through all the storms and vicissitudes of autumn, winter and spring; nor will a bird be disposed to pick off and devour these eggs, with this frothy matter and the hairs of the cocoon adhering to them. Thus they are shielded from harm, until the return of warm weather brings forth a crop of leaves for the subsistence of the worms; whereupon the latter hatch from the eggs and grow up till they become the gay caterpillars which we first noticed.

These caterpillars, like most other injurious insects, have their mortal enemies among their own class of beings—enemies which appear to have been created for the sole purpose of restraining these insects from becoming unduly multiplied, and quelling them down to their appropriate bounds whenever they are excessively numerous. The larva of a minute bee-like insect, pertaining to the family CHALCIDIDÆ in the order HYMENOPTERA, lives within the bodies of these caterpillars. The parent insect, alighting upon the caterpillar, stings it, dropping an egg into the puncture, from which hatches a minute maggot, which feeds upon the fatty matter of the caterpillar, thus exhausting and eventually killing it. I once met with a couple of these caterpillars which I enclosed in a box with some leaves for them to feed upon. Two days afterwards one of them was found to be dead, and the other being lively and vigorous was removed to another box. Next day what appeared like the heads of little worms, were seen protruding from the body of the dead caterpillar. Upon the following day these worms were found to be seventeen in number. They had all left the carcase of the caterpillar, and just above it had arranged themselves in a circular row upon the side of the box, and were now changed into pupæ, hanging by their tails with their heads downwards and their backs against the side of the box. They were of a milk-white color, 12-100ths of an inch long and half as broad. This was upon the last day of July. Next day they had turned to a pale red color, and were somewhat shrivelled, each having discharged a little cluster of clay-yellow grains which were adhering to the side of the box at the tip of their bodies. They afterwards changed to a black color, and Aug. 6th the winged insects came from them. These were of the same length as the pupæ, and of a brilliant brassy-green color, the abdomen blackish-purple with a large transverse white spot above and a larger one beneath upon the hind margin of the first segment, the legs being yellowish-white and the ends of the feet blackish. Their antennæ were dark brown, six-jointed, the basal joint long and pale yellow, and forming an elbow with the remaining joints, of which the next one was shortest, the third longer than the two next which were equal and of an oval form, the last joint being thicker and longer than the third, and shaped like an egg. The wings were clear and glassy, with numerous minute punctures except upon the basal part, each puncture yielding a short hair, and towards the inner margin these hairs were arranged in a row, the space upon each side of it being vacant. The wings were without veins, except a short branch from the anterior margin towards its tip, which branch was thicker at its end and slightly notched. I name this insect the Vaporer moth parasite, (*Trichogramma? Orgyiæ.*)

Another insect, so much like the preceding in all its details, that it may be regarded as its brother reared at the same table, I met with last September, upon rose leaves, where it was probably searching for these same caterpillars. It is slightly smaller, its thorax not so rough and coarsely shagreened, and its abdomen is of the same brassy-green color as the fore part of the body, and without any pale spot at its base. This may be named the Brother parasite, (*T.? fraterna.*)

By these insects, and others probably, whose history is yet unknown to us, the vaporer moth is restrained from becoming so numerous and destructive as it otherwise would be in our country. In my own vicinity I have never known these insects to be so common as to merit any notice on account of their depredations. I think I have never met with a half dozen of the caterpillars in any one year, until last summer, when they were more plenty than usual. But in districts south and east, where the climate is milder than here, I presume they are much more abundant and are frequently quite a nuisance. How pernicious they are upon fruit trees, is shown in a communication from H. B. Ives, of Salem, Mass., in Hovey's Magazine, vol. i, p. 52. Mr. Ives removed all the eggs of these insects from three of his apple trees, leaving the rest of his trees untouched. He gathered twenty-one clusters of eggs from the three trees. Upon the tenth of May the eggs upon the other trees were hatched and the young worms had commenced their ravages. He "watched them from time to time, until many branches had been spoiled of their leaves, and in the autumn were entirely destitute of fruit; while the three trees which had been stripped of the eggs were flush with foliage, each limb without exception ripening its fruit." Dr. Harris (Treatise, p. 283,) states that these caterpillars were quite abundant in Boston and its vicinity in 1848, '49 and '50; and that the horse-chestnuts planted beside the streets and in the parks of the city —trees which commonly are quite free from insect depredators—were almost entirely stripped of their leaves by them.

Fortunately it is a very easy matter to exterminate these insects from the trees which they invade. Therefore fruit trees especially should always be kept free from them; for wherever one of these insects takes up its abode upon a tree, a part of its progeny, for several generations, will be apt to remain there, sustaining themselves at the expense of the tree. During the winter and at any time before the foliage puts forth in

the spring, their nests of eggs can readily be discovered, from the dead leaf adhering to the cocoon to which the eggs are attached. They are thus far more easily detected than the eggs of the common caterpillar, which form a ring or rather a band surrounding the twigs. These nests of eggs may be gathered by cutting off the twigs to which they are attached, or tearing them with the cocoon from off the larger limbs. Occasionally a cocoon will be met with, without any eggs upon it. In such cocoons the chrysalis is still lying unhatched. But as this chrysalis upon the coming on of warm weather, will give out a moth to deposit its eggs upon the cocoon, it is equally as important to gather these chrysalids as the eggs—throwing all alike into the fire. None but the veriest slovens will allow their fruit trees to be depredated upon by insects which can be so easily subdued as the Vaporer moth. ASA. FITCH. *Salem, N. Y., March, 13th*, 1856.

Transplanting Fruit Trees.

[We are much indebted to Judge CHEEVER for the following valuable hints on this subject. His long and very successful experience, both in farming and tree planting, amply proves that the operations of either the field or the orchard need only be conducted with the requisite degree of care and thought, to avoid most of those losses to which both are commonly subject. We will hazard the promise of far less than the ordinary proportion of failures in transplanting, to those who pay attention to the directions he gives below, and we trust he will permit our readers to avail themselves more frequently in future of the benefit of his practical and reliable advice.]

Seeing an article in the COUNTRY GENTLEMAN of the 27th March, upon the subject of the "Transportation of Trees," it occurred to me that a few suggestions upon the subject of transplanting fruit trees might not be out of place at this time of the year.

I have had some experience in transplanting trees, and latterly with good success. I set an orchard of 165 trees in 1851, and every one lived. I set three small orchards in the spring of 1854, and notwithstanding the almost unprecedented drouth of that year, I lost but one tree. Two of the orchards were upon very dry gravel soil. There I lost none. I dug a pit for each tree about 16 or 18 inches deep, in basin form, about 3 feet in diameter, and put in a large wheelbarrow load of good loam soil. Upon this I set the tree, holding it in my hand while my man with a shovel sprinkled the soil which came from the top of the pit on to the roots, having been first made fine. The tree is moved up and down so that the fine soil is worked under the roots until they are fully covered, and should the roots be so shaped and so clustered as to form a roof to prevent the soil getting fully up under the center, the hand is used to accomplish it. When the roots are covered, a quart or two of water is turned upon the center of the roots, which forms a mud directly under the body of the tree. Then dry soil is again thrown on, upon which the person holding the tree steps, planting his feet 4 or 5 inches from the tree upon each side, and so passes thereon round it. The water or mud will by this pressure be forced up to the top of the ground, which gives evidence that all the space under the roots is filled.

The soil is then thrown around the tree to about the height it was in the nursery, but raising a circle around it high enough to hold a pailful of water. If the season is one with ordinary rains, they will leave out and grow. If they should not, or the season is dry, place around them some broken straw and long manure, giving each one a pailful or half a pailful of water. Should any fail to leave out with this treatment, tie around the trunk quite up to the limbs or further, a thin layer of straw, putting on the upper layer first, and then with a ladle turn water upon the upper end of the straw until the tree is thoroughly wet, and repeat it daily. This will seldom fail to bring out the leaf; and save the tree.

Should any of the trees falter through the summer, as they may, if a dry one, give them a pail of water in the basin prepared f r it, and they will go through. This is some trouble, but if a tree is worth buying and setting, it is worth saving.

I have saved trees which had been very much dried before they reached me, by digging a trench in a wet place, and heading them down so that the body will be at an angle of, say, 30 degrees with the ground. If water shows itself in the trench it is no objection. When the roots are so covered, the buds will open if there is any vegetable life in the tree. They should then be set.

I very much prefer the spring to the fall for setting trees; but as the early part of the fall is the best tim- for getting a chance of trees in the nursery, it is well to take them out at that time, and heel them down in dry ground, in a protected spot, until spring, and then set them. I treated pears and plums in that way the last year taken from Thorburn & Co.'s Nursery, Albany, and every one lived, and more than half of them ripened fruit the first year. S. CHEEVER. *Waterford, March 27th*, 1856.

Destroying Bushes.

MESSRS. EDITORS.—I have a number of acres of old pasture, fed by cattle and sheep for many years—some of it has grown up to bushes and is nearly valueless for feed. Now could you tell me how to kill the brush and bring in grass again? It formerly produced good crops, but being inconvenient to manure on account of distance from the barn and cattle-yard, it has been neglected for some twenty years. Should I be likely to get a remunerating crop of corn by plowing in bushes and every thing else on the soil, and then turning in the corn-stalks and seeding to grass?

Is there any way to destroy running blackberry briers in a mowing lot? I have practiced for a year or two picking them up after the plow and harrow, but this does not get them all. A SUBSCRIBER. *Gales Ferry, Ct.*

It is not probable that a plow would get through the roots of these old stubby bushes. Grubbing would therefore be necessary. Even if plowed under, the old roots would prove troublesome for some years to come. Remove all that the plow will not turn up, and sow *corn-fodder* in drills, at the rate of 2 or 3 bushels per acre—cultivate the space between the rows two or three times with a horse, till the fodder gets too large to admit of it. We have never found any thing equal to this for bringing old rooty,—turfy land into good, clean, mellow condition. The dense shade of the corn fodder smothers down the growth of every thing else. The corn may be cut for fodder, or plowed in for enriching the land.

This same treatment is the best remedy, also, for brier roots. We have never been able to eradicate them completely except by thorough tillage. If any one else knows a better remedy, we should be glad to give it to our readers.

GUANO AT BALTIMORE.—The following are the imports of Peruvian guano into Baltimore for seven years:

1849	2,700 tuns.	1853	32.152 tuns.
1850	6.800 tuns.	1854	58.927 tuns.
1851	25,000 tuns.	1855	30,695 tuns.
1852	25,500 tuns.		

Inquiries and Answers.

Salt and Lime Mixture, &c.—I wish to know your opinion of the value of *soda* for agricultural purposes—made by incorporating two parts of lime and one of common salt, and to what crops it will be found most useful. Also the relative value of the white sugar beet and the long red mangold wurzel. I have grown the sugar beet and think it best. Is it so? William Arkell. *Canajoharie, N. Y.*

The mixture of lime and salt, which, after remaining together for some time in a moist state, forms considerable quantities of chloride of lime and soda, is generally regarded as a useful manure, but we are not aware that any extensive and precise experiments have been performed to show on what crops and with what soils it proves best. Like all special manures, it sometimes is quite beneficial, and at others not at all so, and is uncertain in its results. We should decidedly recommend its use by being first added to the compost heap.

We do not know of any trial to prove the relative value of the mangold wurzel and sugar beet, but several practical farmers have, after a trial of both, expressed their preference of the latter.

Beans.—A correspondent wishes to know the best and most profitable kind of beans. We have some of the more prolific white varieties, the best for main crops. There are several *early* bush beans, but we have not had sufficient experience to decide on the best. Will some of our correspondents, who have had more, please furnish the desired information, and state the product from a given area?

Steven's Seed Sower.—*S. H. W.* The price of this machine, of which a cut and description was given in our last no., is $30 for hand sowers, sowing 6 feet wide—horse machines, sowing a breadth of 10 to 12 feet, $80.

Thrashing Machines for Oregon.—*R. A. Gesner.* Pitts' Thrashing Machine, with horse-power, separator, &c., all complete, and admitting four to eight horses, is furnished for $280, the power being *iron*, which costs rather more, but is more compact for shipping, and more durable. The weight of the whole is probably a ton and a half—we cannot give the cost of conveying by ship to Oregon. It may be ordered through John Rapalje & Co. of Rochester, N. Y.

Sour Milk for Cows.—*C. E. Grice.* Pure, *undiluted*, sour milk, is so excellent for pigs, and so profitably fed in this way, that it would be better to pay a high price for the pigs, if necessary. We have known cows to drink it freely, and probably any cows may be soon taught to do so, but we cannot say how much benefit is thus derived from the sour milk, from anything but guessing, which is never satisfactory. We think pigs the most profitable manufactory of the two.

Spontaneous Growth of Plants.—*C. S., Walkill, N. Y.* Plants and trees often spring up after clearing and burning—earth from well-bottoms often produces plants—and second-growth forests are often quite different from the first. To the inquiry, "how came the seed there?"—it is impossible to answer without a knowledge of all the circumstances. There are so many ways for seed to become disseminated, and they often remain so long dormant, that there is no necessity to suppose that plants will spring up spontaneously. They are often carried by winds, by birds, by running water, in animals, adhering to the hair of animals, with drifting snows, &c., and some of them are so small that thousands are scattered in every direction unperceived. These causes all operating for days, months, and for successive years, accomplish enough for all the results that are witnessed. Sometimes what was at first fresh, clean earth, from wells and cellars, may be in a day or two thickly sowed with seeds in different ways.

Chorlton's Grape-Grower's Guide.—*H. C. W., Sheldon, Vt.* We can send you this work—price 60 cents.

Guano for Orchards.—How shall I enrich the soil of my orchards? Would Peruvian guano be proper, beneficial, and safe? If so, how much to the acre? A. C. G. [Three or four hundred pounds of guano might be applied per acre to an orchard at a time, annually. It would be best to mix it with several times its weight of peat or mellow loam, and after remaining some days at least, to scatter it broadcast, harrow it, and then plow it in. Guano is uncertain in its results. We should prefer a compost of good manure and peat or turf, with some ashes and perhaps lime. This should be spread, harrowed, and plowed in, and will not fail to produce a good effect on all soils not fertile enough.

Supply of Fruit for the Entire Year.—It is well known that about 20 years since many farmers (extravagantly excited) cut down their apple orchards, since which time the tide has been rushing us on toward the other extreme, crying, "fruit, fruit," both in city and country—rich and poor, all unite in saying, "Give us a goood quality, and plenty of it, the live-long year." And what but apples can be furnished the entire year in our locality? I fancy the time will never come when we farmers shall grow too many apples of the best quality. A. C. G. *Sandlake, N. Y., March*, 1856. [Apples must constitute the chief supply of fruit in Rensselaer county, ripening from soon after mid-summer, through autumn, winter and the next spring. But some other fruits should by no means be forgotten, namely, strawberries by the first of summer; the earliest cherries (Early Purple Guigne, May Bigarreau, &c.) almost as soon; followed by raspberries, currants, gooseberries, and the new blackberries; plums from mid-summer till frost; and pears from summer till next spring. These will all succeed there by good management.]

Various Inquiries.—Would the improved King Philip corn be a suitable variety for this section of country? We are in want of a variety of smaller growth and earlier maturity than the gourd seed, and still a productive kind? (1) Is there any horse-power, superior as a stationary power, to those on the endless chain principle, to do the thrashing, &c., on a small place, where one horse would have to be used most of the time? (2) Would it affect the running or draught of a plow to shorten the beam, provided the point of attachment to the beam were lowered so as to bring it in the line drawn from the point of resistance at the mould board to the point of draught at the horse's shoulder? (3) Lastly—What plow will make the best work in stiff sod, turning a furrow about 6 by 9 inches? (4) A New Subscriber. *Burlington, N. J.*

(1) The King Philip corn would doubtless succeed well, but it must be planted much nearer than the gourd-seed, or the crop will be very thin—probably in drills would do best. We think that at Burlington the Dutton (12-rowed yellow) would answer better, if planted thick enough—being larger than the former.

(2) We know of none superior to the *best made* endless chain powers. These are often placed too steep for the comfort and most profitable working of horses. It is better to give them a more horizontal position, and let the horse draw in harness.

(3) If too short, it will not run so steadily—and this alone would make it harder for the team.

(4) There are many excellent sod-plows, manufactured in different parts of the country. We cannot say which is best of those sold in the neighborhood of our correspondent. Ruggles & Co. make excellent ones, which may be had of R. L. Allen of New-York.

Insects in Pear Limbs.—*Philo, Linton, Ia.* The limb containing the eggs in the inner bark, may not be seriously injured. There are several insects that puncture limbs, more especially of the Cicada family, that exert only mechanical injury by puncturing for the eggs. We cannot say what the insect is, from merely inspecting a portion of a shrivelled shoot. It would be well to watch the results, and secure specimens of the insect, if likely to prove destructive. They may be sent by mail in small tin boxes.

LICE ON HORSES.—*Wm. Marks.* It is said that horses become lousy from hens, when the roost is too near the stable. It is worthy of inquiry whether they are infested by other species of lice—requiring different treatment. A skillful agricultural friend informs us that he has found two remedies effectual for this difficulty—the first, washing the animal in a decoction of tobacco which needs repeating two or three times to be complete; and secondly, rubbing dry ashes all through the hair, and then turning the animal out in a rain storm—this is a rather sharp remedy, destroying a part of the hair. Cole, in his "Diseases of Animals," says that horses badly infested have been at once relieved by soaking all over in "new rum." The removal of all litter which may contain lice, whitewashing walls, and brushing, washing and oiling harness, must not be overlooked, in connection with the remedies.

GRAVEL HOUSES.—*A. C., Athens, Tenn.* See note on this subject in Co Gent. of 6th March, p. 160 Who can answer the following, from their own practical knowledge? "Does the gravel wall, recommended by Mr. Fowler in his "Home for All," stand the weather well, and is it as cheap as recommended?"

BOULDERS.—Your correspondent who wishes to learn how to split or crack boulders and large rocks to pieces will find the following an effectual method of getting rid of them. When the ground is wet, dig a hole by the side of the boulder, and roll it in, and cover it up deep enough to be out of the way of the plow. S. B. BUCKLEY. *West Dresden.*

COLORING BUTTER.—Will it answer to color butter with carrots if you design to pack your butter? I fear the raw vegetable matter might sour and spoil the butter, unless it were used immediately. Will some one experienced in this matter, inform me through the Cultivator? M. F.

FOXES KILLING LAMBS.—Five wool-growers in this vicinity raised about 300 lambs last season, and of those dropt, about 130 were destroyed by foxes. Is there any remedy short of the destruction of the foxes, that will prevent such depredations? If you or any of your readers know of any, a favor will be conferred by making it known through the columns of the "Country Gentleman." D. G. WILLIAMS. *East Dorset, Vt.*

PULLING STUMPS.—Your Illinois subscriber wishes to know where he can purchase the cheapest and best stump-puller. The cheapest and best I know anything about, is a log from 8 to 12 inches at the butt. It is best not to spring. After digging around and chopping the main roots off, chain the sweep to the largest roots in such a manner as to prevent it from flying up; at the end you hitch your team on. Your oxen and a pry at the stump, is all the stump puller a farmer wants. LUTHER HAMPTON. *Woodbridge, N. J.*

SMUT IN OATS.—I notice in your paper of March 20, some inquiries about smut in oats. I offer my experience with regard to the second. In 1844, my oats were seriously infected with smut. The spring following I washed my oats clean as I could in water, then soaked two hours in strong lime-water, then applied dry plaster, and then sowed. The result was a first rate crop, without one ear of smut. I prefer this method to simply washing and rolling in dry lime, on two accounts—first, owing to the shape of the kernel, it is not easy to wash off all the smut—second, it is still harder to apply dry lime to all parts of the kernel. ALLAN PALMER. *Castleton, Vt.*

PEACH BLOW AND WESTERN RED.—Can any one inform me if the Peach Blow of the Boston market, and the Western Red of New-York are "one and the same" potato. Last spring I planted the produce of the foregoing potato "side by side," with Western Reds, but was unable to perceive any difference in them. If there is none I should like to know it, as many farmers in this county are sending to Vermont and Massachusetts for their seed, imagining that the Peach Blow is a superior variety. E. L. COY. *West Hebron, N. Y.* [The potato known as the "Western Red," in some parts of the country, is the same as that known as the "Peach Blow" in other sections.]

WORK ON THE HOG.—*E. B., Milan, O.* Youat and Martin's is the best work on the Hog—price $1.25, sent by mail, prepaid. There is a smaller work by Richardson—price 25 cents. We very much need a good American work on the breeding, management, and fattening of swine. We cannot answer your other inquiry.

LICORICE.—*J. S. E., Freeport, Ill.* The roots of this plant can be obtained of W. R. PRINCE & Co., Flushing, N. Y. According to Loudon, it requires a deep sandy loam soil, trenched to the depth of two and a half to three feet, and three years' growth to mature the roots.

TIME FOR GRAFTING.—Please inform me the proper time to cut grafts, and also the best time to graft, &c. GEORGE T. OSBORN. *Pawling, N. Y.*

Grafts may be cut at any time between the fall of the leaf in autumn, and the commencement of the circulation of the sap or swelling of the buds in spring. Cherry trees must be grafted very early, or the grafts will not succeed. The best success we ever had (with several thousands,) was on the first approach of warm weather, while the snow was yet six inches deep under foot. As a general rule for cherries, they must be set a fortnight before the buds swell. If set just at the swelling of the buds, they rarely grow. Plums should be grafted next after cherries. Apple and pear grafts do well if set while the buds are swelling, the grafts having been kept dormant. They will grow if set even when the stocks are in leaf, but their growth is not so vigorous as when set earlier.

SPRING WHEAT.—Can you, or any of your numerous correspondents inform me, where the "China," or "Canada Club" spring wheat can be obtained—the cost per bushel, &c. Which, in your opinion, is the best kind of the many varieties of spring wheat to cultivate? L. L. WEEKS. *East Line, N Y.* [The different varieties of spring wheat can be had at the stores of PEASE & Co. and EMERY & BROS., in this city, at $2 25 to $3 per bushel. For comparative merits of the different varieties, see an article in the Co. Gent. of Feb. 14, or in the March Cultivator.]

LEACHED AND UNLEACHED ASHES.—Will it answer to use guano and leached ashes together in the furrows for potatoes? If not, will a pile of six or eight tons leach sufficiently from fall to spring, to be laid on the ground? Plaster and phosphate of lime have been used here without any success. Is poudrette a manure that will answer here? A SUBSCRIBER. *Suffolk Co., N. Y.* [We have already stated that guano, used as a constituent of compost, is the true way to use it, in which way it generally succeeds more or less. Our correspondent must give it a full and fair trial, on a small scale—this will be more satisfactory than any theory or opinion. Unleached ashes are stronger than leached, and consequently may be used in much smaller proportion—say one-fourth or one-fifth. If applied when strong and fresh to land in autumn, and evenly and thinly spread, the potash will be dissolved by rains and carried into the soil, and exert a very beneficial influence in all cases where this ingredient is needed. Good poudrette will be useful in all soils where common yard-manure succeeds.]

PAINT FOR GATES.—Wishing to make a number of farm gates this spring, and being of oak and hard to plane, I should like to paint them with some cheap paint. In the March No. of the Cultivator some are mentioned. Would they do for gates? How much would gas-tar cost? E. P. ST. JOHN. *Oberlin, Ohio.* [Gas-tar can be usually had at coal-gas-works, for about $3 per barrel, and may therefore be regarded as a very cheap paint. We have never found anything

its equal in preserving wood from decay. It would be admirable for farm gates, where the black color is no objection. We can give no practical information on the comparative cost and value of blue vitriol as applied to wood.]

What is the best or right quantity of peas to sow broadcast to the acre, to produce the greatest growth for plowing under in the fall for the improvement of land of a sandy thin quality. I speak both of the common kind and Oregon. O. C. A. *Center, N. C.* [We can answer only for the common pea, which is usually sown at the rate of about three bushels per acre, but we would sow at least six for green manure. This quantity of seed will give nearly double the amount of vegetable growth, which would be of much greater value than the increased cost of seed. Both ways may be tried, for the sake of showing the superior economy of the thick seeding.]

Grown Wheat.—I want to inquire if wheat that has grown in the stack, some of it an inch or two long, will be fit for seed? C. W. W. *Eden Prairie, M. T.* [It will not be safe to use it for seed, as but little of it, if any, will start again.]

Growth of Norway Spruce.—How long will it require the Norway Spruce to grow to 8 or 10 feet in height, so as to form a good screen to a yard, from winds, and is it the quickest that could be had of evergreens, and how thick should they be set out? R. Hatton. *Waynesville, O.* [The Norway Spruce will grow 3 or 4 feet in a year, if it has good soil and a fair chance. Trees 2 or 3 feet high when set out, and receiving the best management in transplanting, would be 10 feet high in 3 or 4 years. On all soils, the Norway Spruce is the most rapid and certain evergreen—although on *favorable* soils, the white pine will grow as fast.

Compost.—I want to make a fertilizer for corn and potatoes, by mixing hen manure, night-soil, coal dust, and plaster together—want the whole dried and pulverized fine. How shall I do it, and what part of each should be used? Would ashes be beneficial? An early answer from some one is desirable. W. H. Jennings. *Milton, Ct.* [The exact proportion of these ingredients are not essential. Of the two first, one or both may be used as they happen to be on hand. Enough charcoal dust should be added to render them dry enough to crumble when worked over, and a fourth to a tenth of plaster may be added. These ingredients should be left in a sheltered heap for a few weeks, until sufficiently dried through, and then pulverized finely by working over with a steel rake.]

Winter in Indiana.—A correspondent at Linton, Greene Co., says the winter there has been the coldest since its settlement. The thermometer has been down to 26 and 28 degrees below zero, with an unusual amount of snow. The writer adds:—"The effect of the cold on the peach trees is sad indeed; they are killed down as far as they stood above the snow, and my Virgalieu pear trees are also killed. Whether they are generally killed or not, I am not prepared to say. The Isabella grape vine has nearly all the last year's wood killed."

Peach Trees Killed.—Extract of a letter from a subscriber at Nashville, Tenn.:—"I find on examining my peach trees that most of them are completely destroyed by the severity of the winter. My orchard contains over 3000 trees; three-fourths of them are entirely dead; possibly a few may survive, but badly scathed. It is rather an unpleasant sight to look at three thousand trees of the choicest varieties, which produced the past year over three thousand dollars after all expenses paid. On many of the trees the bark is loose upon the stem and can be taken off the wood, looking as black as mahogany. I have not heard of the condition of other trees in this vicinity having just discovered my own loss.'

Notes for the Month.

THE OAKES COW BEATEN.—From the milk of the celebrated "Oakes cow," there was made, according to the record, in 1814, 300 lbs. of butter—in 1815, 400 lbs., and in 1816, 484½ lbs. Mr. JOHN H. CARSWELL, of West Exeter, Otsego Co., N. Y., has furnished us a statement of the product of his Devon cow "Beauty," from which it appears that in forty-two weeks, commencing Feb. 6, 1855, she gave 7,450 lbs. of milk, from which was made 512 lbs. of butter. This is an average of about 12½ quarts of milk, and but a fraction less than an average of 1¾ lbs. butter per day for the whole 294 days. This is a very extraordinary yield —one which has very rarely been equalled. We will not ask, who can "beat," but who can *equal* this?

"Beauty" received the first prize as a seven year old cow at the Otsego Co. Fair in 1854, and the first as the best milch cow in 1855. Beauty was got by "Star," from Mr. Blackman's stock of Butternuts, and her dam by "Red Jacket," from Madison county.

In connection with the above, we may state that an imported Alderney cow, "Flora," owned by Mr. MOTLEY of Mass., yielded, from May 10, 1853, to April 26, 1854, (fifty weeks,) 511¾ lbs. of butter. The English books, however, record an instance where the product greatly exceeded either of these instances—that of a Sussex cow, owned by WM. CRAMP, of Lewes, Sussex, whose milk, from April 6, 1807, to April 4, 1808, 51 weeks and four days, produced 675 lbs. butter.

Mr. PETER MCHARG of New Scotland in this county, has just purchased of Mr. CARSWELL one of "Beauty's" calves, a two-year old bull called "Chief," got by "Osceola," who received the first prize as a two-year old bull at the State Fair in 1852, and the second prize as a three-year old at the State Fair in 1853. To "Chief" was awarded the first prize for yearling bulls at the last Otsego Co. Fair.

WHITE FLAX SEED.—The white flax seed, advertised by Mr. THORBURN, was raised by Mr. J. P. Noxon of White Creek, Wash. Co., N. Y., who says—"The white Russian flax seed which I exhibited at the State Fair, and sold to Mr. Thorburn, was raised from seed imported from Russia. It is said to produce more and a better quality of oil, than the common seed—the average crop is ten to fifteen bushels seed, and about 250 lbs. lint per acre, both of which are considered at the flax mills as superior to the common kind."

MORGAN HORSES.—D. C. LINSLEY, Esq., of Middlebury, Vt., is preparing a history of this celebrated breed of horses, which will occupy about 250 pages—price $1—sent by mail free. They are worthy of this honor. Probably no single animal produced or introduced into this country ever left such decided marks on his progeny as the original Justin Morgan horse, nor has there been one whose produce has been such a source of profit to their breeders. The origin and history of this horse was first given to the public in THE CULTIVATOR in 1842, by Justin Morgan of Stockbridge, Vt., and John Morgan of Lima in this state.

ADVERTISEMENTS.—The Horse Hoe of Mr. SHARES is highly praised by those who have used it.—For further account of Mr. CAHOON'S extraordinary Seedling Rhubarb, see Co. Gent., vol. 6, p. 239.—Mr. WAINWRIGHT'S Devon cattle and Essex pigs are among the best in the country.—See also new advertisements this week from PARSONS & Co., J. M. THORBURN & Co., A. M. TREDWELL, JOHN SAUL, E. C. FAIRCHILD & Co., HOVEY & Co., and others.

DISTINGUISHED GUESTS.—Great preparations are making for the inauguration of the Dudley Observatory and the opening of the new Natural History Rooms in this city, to take place in August next, in connection with the annual meeting of the American Scientific Association. Invitations have been extended to the most eminent scientific men abroad, and hopes are entertained that Prof. LIEBIG of Munich, Prof. AIRY of Greenwich Hospital, LE VERRIER, of France, ARGELANDER, of Germany, and the STRUVES, of Russia, will be present. A free passage for such gentlemen as may be able to avail themselves of the invitation, has been offered by the owners of the Cunard, Collins, Glasgow and other lines, and JAMES S. WADSWORTH, Esq., of Geneseo, has tendered $500 to defray the expenses of Baron Liebig.

BILLING'S CORN PLANTER AND FERTILISER.—Since the high commendation of this machine, by a subscriber in Otsego county, published in another part of this paper, was in type, we have received an advertisement from its manufacturers, which will appear next week; and we are sorry to learn that, as yet, no arrangements have been made for its sale in this State. If it equals the representation given of it by our correspondent, whom we know to be entirely disinterested in the matter, it should be for sale at all our agricultural warehouses.

DIOSCOREA BATATAS.—Somebody has sent us a copy of "Life Illustrated," with an article marked, on this plant, from WM. R. PRINCE, in which the writer attempts to be very severe on the article in the Co. Gent. of Feb. 28, which represented the plant as altogether unworthy the praise Mr. Prince and others have bestowed upon it. We do not deem any reply to the remarks of Mr. P. necessary; but we add that several gentlemen in Great Britain, who gave it a fair trial the last year, have pronounced it an entire failure. We had marked some reports of trials with it, reported in a late no. of the Irish Farmer's Gazette, for insertion, but the paper has been mislaid. A writer in the "Country Gentleman's Newspaper," London, says he made a trial of it last year, and used every means to coax them forward for three or four weeks, giving them a good soil, and a good and warm situation; and the result was a product of *three ounces* from one root.

Since writing the above, we have received the annexed, to which we cheerfully give place:

The following is an extract of a letter to the Com. of Patents from W. D. BRACKENRIDGE, late public gardener in Washington, and formerly of the U. S. Exploring Expedition, residing at present at Govanstown, near Baltimore, Maryland: "The two small tubers of the *Dioscorea batatas* which you gave me last spring, I started in a hot-bed and planted them out about the middle of May, in a deep, yellow, loamy soil. About the middle of November I dug the roots, and found two of them over two feet in length and four inches in circumference. Next season I intend to plant these roots and the small tubers propagated from the leaves, and allow them to remain in the ground dnring next winter, as I think in a second year they will attain a large size, after protecting them from frost by covering with straw or leaves."

AG. COLLEGES.—The Legislature of New-York have just appropriated $40,000 toward the founding of an Agricultural College, to be paid when the Trustees of the Institution shall have secured a like sum by subscription. This sum has all, or nearly all, been secured, and we may therefore reasonably look for the establishment of the institution as soon as the necessary arrangements can be perfected.

The Legislature of Maryland have also just made an annual appropriation of $6,000, for the support of an Ag. College. This annual appropriation is, however, not available to the college until subscriptions to its capital stock to the amount of 2000 shares at $25 per share be actually secured and made good.

PANSEYS AND DAISIES.—H. W., *West Meriden, Ct.* You can get these plants at all the principal nurseries in the country.

Award of Premiums for 1856.

The time allowed for competition for the prizes offered for subscriptions to our papers having expired April 10th, we announce the following awards, premising that any error which may have crept into our accounts will be rectified with the greatest pleasure.

1. Hiram Mills, Lewis Co., for..... $173.83 .... $50
2. I. W. Briggs, Wayne Co..... 133.40 45
3. John R. Howard, Mass., ... 90.67 40
4. Dutchess Co. Ag. Society,..... 95.50 35
5. E. Benedict, Clinton Co..... 75.57 30
6. C. F. Webster, Sr., Indiana,..... 75.10 25
7. L. W. Curtis, Madison Co., ... 74.60 20
8. G. W. Durant, Albany Co..... 64.96 15
9. C. B. Sheldon, Delaware Co., ... 61.00 10
10. A. Cary, Montgomery Co.,..... 61.25 5
11. The SIX QUARTO VOLS. CULTIVATOR to each of the following Ten:—
    - P. R. Close, Connecticut, for.....$54.67
    - Cumberland Co. (N. J.) Ag. Society, ... 51.38
    - A. L. Saunders, Madison Co., ... 49.83
    - E. Link, Tenessee,..... 48.00
    - Geo. Hamilton, Nova Scotia,..... 46 40
    - St. Law. Co. Ag. Society,..... 45.00
    - D. Hallock, Suffolk Co ,..... 42.96
    - H. W. Tryon, and L. Selleck, Orange Co., ... 42.11
    - G. W. Gilbert, Connecticut,..... ..... 42.00
    - Robert Bell, Canada, ... 40.30
12. The TRANSACTIONS N. Y. State Ag. Society for 1854, to the following Ten:—
    - Jas. Wells, Fulton Co., for.....$37.81
    - C. G. Wetmore, Livingston Co.,..... 37.50
    - William Newbury, Michigan,..... 33.75
    - A. S. Moss, Chautauque Co.,..... 33.00
    - P. Stedman, Massachusetts,..... 33.00
    - J. F Gritman, Greene Co.,..... 32 67
    - A. Whedon, Vermont..... ..... 32 00
    - H. D. Bennett, Michigan,..... 31.50
    - G. L. Vincent, ... 30.00
    - E. H. Bliven,..... 29.16
13. In addition to the above, which comprise all the premiums offered, we will send either of the volumes of the CULTIVATOR for 1844 or 1845, bound, to each of the following gentleman, as they may respectively prefer:

Messrs. B. Hoyt, Connecticut, R. C. Richardson, Tennessee, A. Willard, Greene Co., H. Whipple & Son. Mass., L. A. Brown, Conn., Jas. Lee, Vt., John Bush, Jr., Delaware Co., N. S. Hakes. N. J., N. Starr, Jr., Delaware Co., H. Sheppard, N J., J. M. Hart, Oswego Co., G H. Parkhurst, Montgomery Co., N. S. Pond, Conn., H. V. Welton, Conn., Geo. Edwards. Steuben Co., W. J. Blakely, Mich., and J. W. Gamble, Ohio.

To all the above, as well as many others, we are greatly indebted for their generous exertions to secure the increased circulation of our Journal. Although fully aware that the premiums awarded afford in many cases but very slight compensation for trouble and expenses incurred, as well as that multitudes of our friends can receive no more substantial reward for their efforts, than our thanks, and their own consciousness of some self-denial in a good cause,—nevertheless we can but indulge the hope that both successful and unsuccessful will be encouraged to "try again" another season, with renewed spirit. We have already endeavored to send bound copies of the REGISTER to all who have sent twenty subscribers to the CULT. and REG. with the money, and whose names are not included in the above lists. If any who have been accidentally omitted will inform us, they shall now receive it.

We hold the volumes of the CULTIVATOR and TRANSACTIONS above awarded, subject to the order of the recipients. The *quarto vols.* CULT. are too heavy to go by mail? Will our friends let us know how they prefer to have them sent? The Cash Premiums will be paid on demand.

SALES OF SHORT-HORNS.—We learn that S. P. CHAPMAN, Esq., of Mount Pleasant Farm, Clockville, Madison Co., N. Y., one of the best breeders of Short-Horns in the State, has recently made several sales from his fine herd. He has sold his "Second Duke," a red bull calf, got by Halton (11552,)—dam, the imported cow "Agate," to Messrs. FRENCH & RAY, of Lenox, Ashtabula Co., Ohio. MARTIN HEYDENBURG of Kalamazoo, Mich., purchased "Third Duke," got by Halton—dam, the first premium Bates heifer, "Hilpa 4th;" and Mr. V. J. BIRDSEYE, of Pompey Hill, Onondaga Co., N. Y., has purchased the cow "Ruby," got by Symmetry (12170)—dam, Willey 3d—"Ruby 8th," got by Halton—dam, Ruby 2d; and "Duchess 3d," got by Halton—dam, the first prize cow Duchess.

FRUIT TREES DESTROYED by MICE.—The past winter and present spring will be long remembered by fruit growers and nurserymen, for the great number and *destructive attacks of mice*, in western New-York. Nearly every man who has young trees has suffered; and many, severely. Nurserymen have lost variously from one to six or seven thousand dollars each. Whole rows, and even blocks, of trees have been girdled from one end to the other, with occasional exceptions, even on very clean ground. The aggregate loss in western New-York, is probably not less than half a million dollars. The writer is unable to answer separately the inquiries made of him, for the best way to save the trees. If they are several years old and valuable, they may be saved with much certainty by cutting or chiseling several furrows between the upper and lower bark, and fitting into these portions of limbs, bark outwards, made to fit accurately, like grafting, the edges of the bark above and below, pared smooth for this purpose. These form connecting links between the two parts, and if well done will save the tree. They are to be well waxed over, and 3 or 4 stout stakes are to be driven near, to prevent their being displaced by hoeing, plowing, &c., a common cause of failure. The greater the number of these connections, the sooner the whole wound will grow over. The vigor of the tree will be diminished for a time. A skillful workman will thus save 20 or 30 good trees in a day. If the girdled portion is long, the operation will be more difficult. Where the *outer bark* only is taken off, waxing alone will answer.

A GOOD HEIFER.—I send you the weight of a heifer 3 years old, a grade Durham, which I think very good for a Connecticut farmer, though perhaps not very great for New-York State farms:

Live weight,	1585 lbs.
Dead "	996 "
Entrails, fat or rough tallow,	139 "
Weight of hide,	86 "

The heifer was raised by my father, Gilbert Close, Esq., of Stanwich, Ct. P. R. C.

GOOD PIGS.—Col. NEWTON WILCOX of West Winfield, Herkimer Co., N. Y., raised and fatted two pigs, half Suffolk, that dressed 744 lbs.—one weighed 398, the other 346 lbs. Age one year and five days. Slaughtered the 15th of March, 1856.

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